

**THE
RAILWAY GAZETTE**

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INCORPORATING

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DIESEL RAILWAY TRACTION SUPPLEMENT

The December issue of THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price 1s.

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Sir Clive Baillieu on State and Private Enterprise

AN important statement on the subject of private enterprise and state control of industry was made by Sir Clive Baillieu, President of the Federation of British Industries, in a speech at Manchester on November 30. In a long speech, which was full of interest, Sir Clive Baillieu dealt in statesmanlike fashion with the trend towards the nationalisation of fundamental British industries, and the part which must be played by industrial leaders during the present post-war transitional period. He laid stress on the roles which should be played by Government and private enterprise, and emphasised that these should be complementary. Attempts to substitute one for the other over the whole field of the nation's industry and commerce would result in acute social strife and might well involve the country in disaster. The smooth and efficient operation of the industries selected by the Government for transfer to public ownership was essential for the restoration of our national life. The future would reveal the wisdom of present courses. If these policies failed, it would not be only the failure of a doctrine, nor even of a party, but of a great and ancient nation, and of a society of nations, which, largely under private enterprise always had stood in the vanguard of freedom and had rendered priceless services to the building of our modern civilisation.

Industry's Views and Attitude

Whatever political views might be held, industry would not be obstructive. Although it would not abandon its principles, it would seek to secure a broad area of agreement on which the reconstruction of our national life could proceed. It would expect the Government to assure to industry the greatest possible freedom to operate within the law, and to protect the public against the indiscipline and indifference to constituted authority and agreed procedures of certain irresponsible elements, which threatened national stability and recovery, and inflicted grievous hardship on all citizens. All policies and decisions affecting the trade and industry of the country had to be tested by reference to their effect on production and employment. All industry, whether under public ownership or private enterprise, had to justify itself by works and performance, not by protests and promises. Pointing out that Great Britain's future could be assured only if, in the days ahead, the close and intimate understanding which linked Government and industry together in the war, were reproduced, Sir Clive Baillieu said that the idea that war production had been achieved by Government Departments, or that the war had been won by the central planning of Whitehall, did not accord with the facts. It had been won by the people, moving behind great leadership.

Engineering Industries and Government

In the House of Commons on October 29 a statement was made concerning the division of responsibilities between the Board of Trade and the Ministries of Supply and of Aircraft Production. The two latter Ministries are to be amalgamated as soon as practicable and the combined Ministry will carry the primary Government responsibility in the field of engineering. Re-arrangements of inter-Departmental machinery have been completed for the transfer of responsibility from the Board of Trade to the Ministry of Supply, and this took effect on December 3. From now on organisations and firms in the engineering industry which wish to approach the Government, should make their representations to the Engineering Industries Division, Ministry of Supply, Imperial Chemical House, Millbank, London, S.W.1. The transfer of Board of Trade responsibilities includes a large part of the mechanical engineering and electrical engineering trades, the railway, carriage and wagon building trade, the chain, nail, screw, and miscellaneous forgings trade, and the hand tools trade.

Inspection of Factories

The annual report* for 1944 of the Chief Inspector of Factories, Sir Wilfrid Garrett, to the Minister of Labour & National Service, points out that as a result of changes which have been made during the war years, it is being increasingly realised by managements that if conditions of full employment are to be implemented, there will be competition for labour, and that the best will go where conditions are good. Because of this, Sir Wilfrid Garrett finds that the older industries will be handicapped, and he points out that, with the present priorities for building material and labour, it may

* Cmd. 6698. H.M. Stationery Office: price 1s. 6d.

take years to obtain the rebuilding of old factories without which modern conditions cannot be obtained fully. He adds that it is becoming increasingly necessary to consider factories as places where people spend one-third of their working lives and that therefore they must be so run that the well-being of the worker is secured. He thinks it likely that although factory inspectors must continue their police duties, without which the general standard throughout the country would fall, the technical and advisory side of their work will become increasingly important. An impression, based largely on the conditions found in the factories especially built or adapted for war production, has arisen that great improvements have been made in all the amenities required by the Factories Act, but taking the country as a whole, the report states that there is an immense amount of leeway to be made up, particularly in the provision of fencing of machinery, overhaul and upkeep of structures and plant.

Quality Control and Time and Motion Study

The need for maintaining a high standard in British production and the benefits which are derived from the work of engineering inspection, were stressed by Mr. John Wilmot, Minister of Supply & Aircraft Production, in an address to the Institution of Engineering Inspection on November 29. The motto "British is Best" could be made true only if we were prepared to set our standards of production higher than those of our competitors. Proper inspection could be a great help in achieving that. Mr. Wilmot also asked the engineering industry earnestly to consider the application of quality control methods to its products. Not only would those methods ensure that whatever was being made was up to standard when it reached the customer; they would also result in the least possible waste of time and material in the factory. The Ministry had practised quality control for a long time, with very great benefit to its production. The Government was anxious to secure the most efficient production in industry, and he urged that coupled with quality control should go time and motion study, which had been proved in the filling factories to be a very valuable means of achieving efficient production.

Overseas Railway Traffic

The Argentine railways continue to show steady increases in gross earnings. According to the annual reports of the companies which have been issued since our last note on the subject, these progressive increases are due to the 10 per cent. increase in the tariffs authorised by Government Decree in force since December 1, 1944, and the expansion of the trade of the country. It has also been stated that the increased tariffs were entirely off-set by the increased wages payable by the companies which were granted concurrently with the higher tariffs. The receipts for the present year's operating to date are as follow:—

	No. of week	Weekly traffic £	Inc. or dec. £	Aggregate traffic £	Inc. or dec. £
Buenos Ayres & Pacific*	21st	146,875	+10,625	2,584,125	+84,000
Buenos Ayres Great Southern*	21st	210,750	+10,562	3,691,813	+316,812
Buenos Ayres Western*	21st	82,687	+6,937	1,435,562	+66,438
Central Argentine*	21st	186,062	+11,450	3,691,860	+275,515
Entre Rios*	21st	26,343	+3,512	492,175	+61,444

* Pesos converted at 16 to £

The Great Western of Brazil, the Leopoldina, and the Central Uruguay Railways continue to show substantial weekly increases in traffic, reflecting the greater prosperity of the South American republics.

Electric Train Restoration in Holland

Rapid improvements are reported in both the train and tram services in Holland, particularly those operated by electric traction. Train communication between major cities is said to be nearly normal so far as speed and frequency are concerned, although comfort is still lacking. On many trains passengers still travel in cattle trucks which have been fitted with miscellaneous seating equipment ranging from kitchen chairs to club armchairs. Even at the beginning of September last there were 815 passenger trains daily, of which 148 were electric. The latter were running on the sections Rotterdam-Maassluis, Amsterdam-Haarlem-Overveen (from August 15), and The Hague-Delft-Rotterdam (from September 3). Since these figures were issued, electric train services have been restored between The Hague and Leyden (on September 17). That between Leyden and Haarlem is expected at the end of December. It is hoped that the electric service between Amsterdam and Amersfoort will be restored

by April next. The reason for the acute lack of passenger comfort is to be found in the fact that less than 10 per cent. of pre-war seating capacity is available, causing the pressure on the civilian passenger service to be enormous.

Coal Conveyance Cheaper by Rail

The Manchester & District Coal Trade Association recently stated that in view of the shortage of railway wagons it had been arranged by the Ministry of Fuel & Power, in conjunction with the Ministry of War Transport, that the allocation of open-cast coal in the Manchester area would have to be delivered by road vehicles at an average cost of approximately 11s. 8d. a ton in excess of what the same fuel has previously cost delivered to the depots in railway wagons. This arrangement has resulted in the retail price of the fuel being raised to 3s. 9d. a cwt. delivered in sacks, which means that this open-cast fuel will cost a householder more than best house coal. The coal merchants state that they have no desire to embarrass the powers that be, but they feel that the public should know the reason for this remarkable state of affairs, otherwise it is inevitable that they will be accused of charging an exorbitant price for this class of fuel. This situation may continue for some time, as there is little prospect of an immediate improvement in the supply of railway wagons suitable for the conveyance of coal class traffic. We trust that when the wagon position becomes normal the merchants will remember that it is cheaper to convey coal by rail and that they will not be so inclined to reprove the railways for adding to the price of coal by charging alleged unreasonable rates for the service.

Model Railways and Railway Charities

Even a primitive model railway, consisting of no more than an oval track and a pair of points, usually possesses in its owner's eyes attributes not apparent to the outside observer. With the passage of years and the coming of comparative affluence, the owner may either lay it aside or proceed to put into concrete form all those details and refinements which formerly existed only in his imagination. It then becomes a pleasure not only to himself, but to others. Two model railways developed from quite humble beginnings (in these days, perhaps, the acquisition of an engine and two coaches for a guinea might better be called legendary) are described in an illustrated booklet we have received from the owners, and which is reviewed in our "Publications Received" column this week. Both are indoor systems, but the elaboration of scenery and lineside accessories is such that many of the photographs reproduced might well have been taken on a full-scale railway in the open air. Inspection by visitors is invited, and has raised substantial sums for such railway charities as the G.W.R. Comforts and Helping Hand funds, the London Transport and L.M.S.R. Comforts funds, and the N.E.R. Cottage Homes. Through the medium of the booklet a much wider public will now be able to make acquaintance with the two model railways and at the same time contribute to the charities concerned, to which the whole of the proceeds from the sales is being devoted.

Steel Rail Tests

A weakness of the British Standard Specifications for both bull-head and flat-bottom rails is that they make no provision for the testing and possible acceptance of middle and bottom rails from ingots when top rails from the same cast have failed to withstand the prescribed tests. As things are, in a cast of steel in which carbon, manganese, and phosphorus are all at or near the upper specified limits, segregation or other slightly defective conditions at the top of the ingots may result in top rails breaking under the falling weight test, whereas tests conducted on middle and bottom rails from the ingot might give satisfactory results. In such a case, it would seem reasonable that the top rails of the cast only should be rejected, and that the middle and bottom rails, amounting, perhaps, to 40 tons out of a 60-ton open-hearth cast, should be accepted. It should be explained that the average rail ingot rolls out to a length of between 180 and 200 ft., from which three 60-ft. rails are cut, named "top," "middle," and "bottom" rails according to the relative position in the ingot from which each rail came. It would not be unreasonable that in the event of a failure of two out of three top-of-the-ingot tests, the manufacturer might be entitled to claim that re-tests be made from the bottom end of top rails, and that if these stood, the customer should accept all middle and bottom rails in the cast concerned. Distinctive marking of all top rails at the mill, of course, would be essential; at most mills already this is a regular practice.

Improving the Locomotive Stock in Spain

Except for 211 engines built since April, 1939, the locomotive stock of the Spanish National Railways consists of 2,933 machines originally the property of the constituent lines, many of them of appreciable age. For some time the railways had not been in a position to replace them with modern designs on the scale demanded by the traffic and other conditions and which, if carried out systematically, ultimately would lead to greatly improved working and increased efficiency. A successful step in this direction was taken after the Western National Company was formed in 1929, with State assistance, resulting in an increased average train load of 21 per cent., a rise of 12 per cent. in tonnage hauled, and a drop of nearly 8 per cent. in fuel consumption per tonne-kilometre, and 4 per cent. in locomotive mileage. The present position is reviewed in an article in *Ferrocarriles y Tranvías*, by Senor M. J. Maldonado, Chief Mechanical Engineer, who estimates that modernisation calls for 300 new locomotives; 690 will be required to meet the increase of traffic during the next ten years and 96 to provide for new lines to be opened. Against this, however, some 140 will be released from routes being electrified and the use of diesel cars could be expected to free 50 more, making a total of 896 new engines to be provided over the period. Present types are satisfactory for ordinary passenger and goods trains, but express and shunting services call for consideration. The latter are considered best handled by diesel machines.

What the Locomotive Running Department Wants

Colonel W. L. Topham, O.B.E., M.I.Loco.E., who has had a wide professional experience in various parts of the world, entertained the Institution of Locomotive Engineers by a provocative paper, entitled "The Running Man's Ideal Locomotive," which he delivered on November 28. Introducing his subject with what he described as a "heretical suggestion" that there is really no need for a Chief Mechanical Engineer on a railway, and that the designing part of his duties should be taken over by the Locomotive Running Superintendent, who would have a Works Superintendent under him, and that all new locomotives should be purchased from manufacturing firms, he went on to outline in general terms the kind of locomotive he would like, and then, taking its chief components in turn, gave his reasons for preferring the practice of this railway or that in the design of boilers and accessories, injectors, brake equipment, cab layout, cylinders, valve gear, etc. Colonel Topham made it abundantly plain that he was all for Spartan simplicity and reliability, and referred to some good efforts in achieving this desirable end from British, Italian, Egyptian, German, and Argentine practice. Perhaps he rather overstated his contention that certain undesirable features and practices are perpetuated blindly in many quarters, but he scored several shrewd hits, notably when he condemned the custom, all too frequent in the past, of foisting worn-out machine and other tools, from the C.M.E.'s department on to running-shed men, instead of letting them have new equipment. It was not surprising that the paper stimulated an extremely lively (and frequently witty) discussion.

A Rebuilt Nigerian Locomotive

A reconstruction of considerable interest has been carried out on one of the 4-8-0 two-cylinder tender locomotives of the Nigerian Railway. The locomotive, No. 671, is one of a batch of 27 which were bought some 20 years ago and which, though giving good service, had never been particularly good "steamers." When a cylinder fractured on one of these engines, therefore, opportunity was taken to redesign entirely the cylinder and exhaust passages so as to provide a more generous cross-sectional area for the steam and more direct routes to and from the valve chests. The entire work was carried out at the Ebute Metta workshops. We publish an illustrated account of this conversion elsewhere in this issue. The most interesting innovation is the substitution of cast-iron "mono-block" for part of the superseded smokebox saddle casting, so that the smokebox is now supported only at the front and back of the saddle. These mono-block castings act as junction boxes for the four portions of blast pipe which are united in the smokebox slightly below the orifice. This type of blast-pipe is really a natural development of the old "breaches" blast-pipe used on the former G.N.R. in Patrick Stirling's 4-2-2's and in H. A. Ivatt's 0-8-0's and 0-8-2 tanks. It is a matter for congratulation to Mr. T. B. Welch, the Chief Mechanical Engineer of the Nigerian Railway, and his staff, that the rebuilt engine has shown greatly improved performance as a result of the alterations and is now able to haul greater loads, and to show reductions in both coal and water consumptions.

Demobilisation of Railway Staff

DEMobilisation of railway staff from H.M. Forces is proceeding steadily, if somewhat tardily so far as commissioned officers are concerned, and there is now a steady trickle of men returning to railway employment. The change from military life to civilian employment conditions is very marked, and the railway companies are doing everything in their power to facilitate the settling down of returning staff. The Reinstatement in Civil Employment Act, 1944, imposes an obligation on employers to reinstate former employees, but the railway companies are not limiting themselves merely to their legal obligations in this matter, and the following arrangements adopted by one company are broadly typical of those which have been made by the railways generally.

Former employees returning from the Services are interviewed by a responsible officer of the company to ensure that the best use is made of each individual's ability and experience, and suitable instructional facilities are arranged within the department concerned to enable the men concerned to undertake the duties which are to be allocated to them. In addition, to meet the cases of men whose service with H.M. Forces has demonstrated that they possess outstanding qualities, the chief officers will select those men whom they feel should be considered for a period of special training to afford them an opportunity of becoming qualified for the vacancies in higher positions which are likely to occur in the next few years. These men will then be interviewed by a committee of chief officers who will select a number for special training. These special training facilities will be varied according to the age, experience, and other qualifications of the candidate, and ordinarily will occupy about one year on the understanding, inherent in previous training schemes, that selection for training does not necessarily guarantee promotion.

Where considered desirable, a special allowance over and above the salary normally payable will be made during the period of training, and reasonable lodging and out-of-pocket expenses will be allowed. The arrangements will also permit a man to be considered for transfer to a department other than the one in which he served before the war. Periodical reports of progress will be made during the period of training to enable the committee to assess the merits of an individual before it makes a recommendation as to his future position.

All concerned have been urged to give the most sympathetic consideration to men returning from the Forces, and officers have been asked personally to satisfy themselves that the transition to civilian employment is made as easy as possible. These arrangements, if carried out with tact, sympathy, and understanding, should go a long way towards assisting the smooth reinstatement of staff and particularly in those cases where members of staff in the lower grades of the railway service have achieved fairly high military rank in the Services.

It would be manifestly unfair to confine these special training facilities to men returning from H.M. Forces, as there are a number of instances in which, by reason of the general shortage of staff, men who have remained with the company during the war have shown outstanding qualities which should fit them for positions of greater responsibility than those they normally occupy and to which it was not possible to give them permanent promotion. Suitable men therefore will be selected by the chief officers of the departments concerned, and given an opportunity of being considered for similar special training to that given selected men returning from the Forces.

Apart from these special facilities, arrangements also have been made for training young engineers and selected members of the clerical staff within their own departments. The object is to enable a limited number of men to obtain wider experience of the work of the department in which they are employed than they would obtain normally, and to provide in each department a number of trained men who would be available for consideration as and when vacancies in higher positions required to be filled.

The period of training normally would occupy two or three years, during which they would receive their normal salary plus lodging allowance, when required to live away from home, and reasonable expenses. For obvious reasons no guarantee of promotion can be given, but the progress of the candidates will be watched carefully. This scheme will also be available for members of the staff returning from the Forces who are not

selected for the wider special training scheme mentioned above. There can be little doubt that, if these arrangements function satisfactorily, they will be beneficial to the staff and managements alike.

Post-War Track and Speed

NOW that the war is at an end, those responsible for track maintenance, no less than locomotive and rolling stock designers and operating authorities, are devoting a good deal of thought to the future. This matter received detailed attention in the September issue of our American contemporary, *Railway Engineering and Maintenance*, which contained a most interesting summary of the views of a number of maintenance officers of leading railways in the United States and Canada as to the future operating conditions which may be expected, and how the track must be prepared to meet them.

Almost without exception, those interviewed expect passenger train speeds up to 90 m.p.h., except where such maxima are totally impracticable; and a number think that with modern diesel-electric haulage the streamline trains of the future may require to maintain speeds up to between 110 and 125 m.p.h., if there is to be effective rail competition with air transport. A general opinion also is that freight train speeds up to 60 or 65 m.p.h. are to be expected, though in the freight as in the passenger realm, the former particularly, certain improvements in the design and maintenance of rolling stock will be necessary before such speeds can become general. One chief engineer considers that higher speeds would be possible even with present standards of track maintenance, given the rolling stock improvements just mentioned.

The first step to prepare main-line tracks for higher speeds is curve reduction, which is now in progress on an extensive scale in the U.S.A. One railway is setting out to improve alignment over 500 miles of track, and another considers that at least one-fifth of his company's main-line mileage will require similar attention. On other systems, the major part of the undesirable curvature and gradients is in mountain territory, where the cost of large scale improvement would be prohibitive. One engineer emphasises that reduction in both curvature and gradients leads to general economies in maintenance and operation, quite apart from permitting increases in the speed of the fastest trains, and that for this reason several railways over which freight traffic predominates are planning extensive grade reduction schemes. As to the methods adopted in carrying out such improvements, most companies favour the acquisition and use of their own earth-moving equipment, which has considerable value also in ordinary maintenance work; but some railways prefer to put out to contract the larger realignment and regrading operations.

Although a number of the engineers were of opinion that present standards of track maintenance are adequate for the increased speeds of the future—except that they will require extension to many routes over which high speed running has not yet been developed—others consider that a tightening up of inspection and supervision methods will be essential. One chief engineer declares that a major demand will be for the elimination of track hazards, such as broken rails, that cause delay and risk to trains. It is also thought that demands may be made for fewer speed restrictions for engineering work in progress, and also that those which are imposed will require less severe reductions of speed.

One interesting view expressed is, in effect, that a disproportionately heavy demand is being made on the track for the evolution of the conditions necessary for high speed maintenance. The claim is made by one engineer that although trains are being required to run between stops at the highest attainable speeds, the time so gained is being frittered away in unnecessarily lengthy stops for fuelling, watering, and servicing locomotives; in his view the latter should be capable of running non-stop over distances of 1,000 miles or more on the long-distance trains, if required, and the time economised by the elimination of stops should be used to avoid the necessity for excessively high speeds.

Some of those questioned think that the track suffers avoidable abuse from improper rolling stock conditions, such as locomotives badly balanced, skidding wheels, flats on wheels, and so on,

though opinion on this point is not unanimous. Part of the trouble is attributed to the running of locomotives at speeds higher than those for which they were designed, and to the use of freight wagons with bogies and wheels unsuitable for fast running, as well as to the operation of rolling stock which is not up to prescribed standards of maintenance. In this connection the use of diesel locomotive power is widely favoured as less damaging to the track than that of steam locomotives of equivalent power.

The opinion is generally expressed that the type of rail at present in use is adequate to meet the demands of post-war traffic. A rail section not less than 131 lb. per yd. is regarded as generally necessary for high-speed main-line work, and it is hoped that better sections may be evolved, to eliminate weakness due to stress concentration, particularly in the web. Greater hardness and toughness in rail steel are looked for, as a fruit of metallurgical research, and probably attainable by appropriate heat treatment.

As to rail length, some maintenance officers regard as probable an increase from the present American standard rail length of 39 ft., possibly to 45 ft. or 48 ft., though one engineer envisages the possibility of a 78 ft. rail becoming standard. Mixed views are expressed as to the advisability of continuous rail welding; one engineer considers that this may become more popular when rail defects have been eliminated, so that it may be possible to instal long lengths of rail without the fear that defective portions later may need to be cut out. Controlled cooling of rails, and end-hardening to reduce batter, are favoured universally, though the cropping of battered rail-ends in the track is not liked so generally. Half the engineers express the view that more care is desirable in rail handling, both during and after laying in the track, and that track employees should be educated systematically in this important matter.

Opinions vary as to whether the standard American sleeper length, which is 8 ft. 6 in. (at closer spacings than in Great Britain), should be increased to 9 ft., or whether the major weakness of the track structure may not lie in the ballast. Larger soleplates between rail-foot and sleeper are regarded as desirable, with rail fastenings independent of the soleplate fastenings; and more effective methods of preservative treatment, as well as of checking the tendency of the timber to split, are sought by some of the engineers. It is generally considered that the present depth of ballast on main lines is adequate for future conditions, though some of the engineers favour an increase. It is held by most that more attention must be paid to ballast cleaning, and in this connection the need is voiced for a machine or machines capable of removing, cleaning, and reinstating rock ballast *in situ*, not only in the shoulders and between the tracks, but also under and between the sleepers.

Stability of the track formation is regarded as a *sine qua non* by all those who contribute their views, and many consider that the efforts already made to improve roadbed conditions will require, not merely to be continued, but to be intensified. One engineer thinks that future activities will include the general widening of embankments and cuttings, the flattening of slopes to ensure embankment stability, the use of suitable vegetation on slopes to prevent erosion, systematic grouting of soft spots in the track, and more careful attention than hitherto to surface and sub-surface drainage. None of these points is new, of course, but the work of improvement is likely to be on a considerably greater scale than before to meet future running conditions. First priority must be given to overtaking deferred maintenance. General track surfacing is the most in arrears, but wartime shortage of rails means that replacement is due over a considerable amount of main line mileage; sleeper replacement is less in arrears.

The worst problem facing American railways at present, so far as concerns track maintenance and improvement, is labour; workers released from war factories show little disposition to date to take up work of this description. Because of the higher wage levels that are probable after the war, also, it is the opinion of a number of the American engineers questioned that in future the first cost of track improvements may rank as of less importance than the savings in maintenance that they may make possible. But as to the fact that continuous improvement of track is necessary to meet future running conditions, opinion is unanimously in the affirmative.

Buenos Ayres Great Southern Railway

THE report for the year ended June 30, 1944, shows a further increase of £2,123,227 in gross receipts mainly due to the expansion of the internal trade of Argentina and the higher tariffs authorised by Government decree which came into force on December 1, 1944. Working expenses increased by £920,314 of which sum £472,525 is accounted for by increased expenditure on maintaining the permanent way and works (£224,723) and rolling stock (£247,802) compared with last year. The receipts from the higher tariffs were entirely offset by increased wages granted when the tariffs were authorised and have not benefited net receipts during the year. Due mainly to the heavier traffic movement mentioned, net receipts at £3,097,067 show an increase of £1,202,913, which is an improvement on recent years. After providing the sum of £1,307,796 for exchange differences (an increase of £528,983 compared with last year), and for all fixed charges, there is a credit balance for the year of £208,692, which reduces the debit balance to be carried forward on net revenue account to £1,627,846. A few comparative working results are given below:—

	1943-44	1944-45
Passengers	62,475,240	71,468,579
Public goods, tons	8,408,851	8,466,229
Passenger receipts	3,110,100	3,889,744
Public goods receipts	6,882,600	7,516,580
Gross receipts	13,365,124	15,406,351
Working expenses	11,470,970	12,391,284
Net receipts	1,184,154	3,097,067

Receipts from luggage and parcels increased by £364,470 and receipts from fruit traffic amounted to £714,083. The livestock traffic decreased by 1,056,527 head, involving a decrease of £51,023 in receipts. The operating ratio improved from 85.83 to 80.00. The expenditure on renewals during the year amounted to £225,101; no charge was made to working expenses in respect thereof as this expenditure was more than covered by exceptional credits to renewals reserve arising from sales of scrap materials.

Buenos Ayres Western Railway

THE accounts for the year ended June 30, 1945, have now been published, and show improved results. Gross receipts show an increase of £1,011,969, accounted for by heavier passenger movement, increased tonnages of parcels and goods carried, and the higher tariffs authorised by Government decree, which came into force on December 1, 1944. The receipts from the higher tariffs were entirely offset by increased wages granted when the tariffs were authorised and have not benefited net receipts during the year. Due mainly to the heavier traffic movement mentioned, net receipts show an increase of £473,006. Expenditure on renewals amounted to £42,072 of which £18,189 has been charged to working expenses. The balance was covered by credits to the renewals reserve arising from sales of scrap materials. After providing the sum of £403,867 for exchange differences (an increase of £169,232 compared with last year) and for all fixed charges, the net revenue account shows a credit balance for the year of £233,372, compared with a debit balance of £70,240 for the previous year. Deducting the debit balance of £156,132 brought forward there is thus left a credit balance of £77,240 which it is proposed to carry forward. The accompanying table compares some operating figures:—

	1943-44	1944-45
Passengers	37,748,769	44,947,409
Public goods, tons	3,149,665	3,367,084
Passenger receipts	1,191,363	1,457,555
Public goods receipts	1,731,730	2,122,096
Gross receipts	4,371,183	5,383,152
Working expenses	3,840,441	4,379,404
Net receipts	530,742	1,033,748

The number of passengers carried during the year was a record in the history of the company. Receipts from luggage and parcels increased by £61,062. The livestock traffic during the year decreased to the extent of 379,933 head but the receipts from this item produced an increase of £63,887. The operating ratio was 81.35 per cent. compared with 87.86 per cent. in the previous year. The moratorium for the payment of interest on the company's 4 per cent. and 5 per cent. debenture

stocks and 5 per cent. three-year secured notes expired on June 30, 1945, and was not renewed. The £395,910 notes then outstanding were repaid on July 2, 1945, together with the interest to date.

Argentine Labour Party Programme

PRESS despatches received in London from Buenos Aires report the publication of the programme of the recently-formed Argentine Labour Party which, it is stated, will support the candidature of Colonel Peron at the forthcoming Presidential elections. The programme is of particular interest to British investors, as it includes the nationalisation of the railways, telephones, and electricity companies, and the suppression of surface railway lines. No surprise is likely to be caused by the declared intention of taking over the railways. Indeed, the expiry in little more than a year from now of concessions under the Mitre Law and the inability of the companies to finance the cost of large-scale renewals and modernisation schemes have made it clear that fundamental changes in the relations between the State and the railways are imperative.

The announcement in the Labour Party programme that, if returned to power, it will suppress all surface railway lines, it is reported, has attracted attention in local railway circles. Perhaps it would not be far wrong to assume that the words "in the city of Buenos Aires" have been inadvertently omitted. The problem of railway level crossings in Buenos Aires is one of many years standing, which the uninterrupted expansion of the capital, year by year, has rendered increasingly acute. There are over 200 level crossings within the city confines and repeated accidents and loss of life have concentrated public attention on the matter to the point where it has become of national importance. Nor is the problem limited to Buenos Aires. A similar costly reorganisation scheme is pending at Rosario, the second largest city in the country and one of the greatest grain ports in the world.

Projects for the elimination of all level crossings in Buenos Aires have been many and varied, but all have one feature in common—they are extremely costly to carry out. Every company has evolved plans to deal with the problem in its own zone, but perhaps the most comprehensive scheme so far produced was submitted by Mr. Adolfo P. Farengo, Professor of Railways at the University of Rosario, in a Paper read before the Argentine & River Plate Centre of the Institute of Transport on June 24, 1941. Mr. Farengo's proposals provided for the removal of all main-line and suburban railways and stations from the city, except one access line to the port, and all passenger traffic into and out of Buenos Aires would thenceforth be dealt with by the Buenos Aires City Transport Corporation's underground railways and buses. Altogether, some 90 miles of track, 201 level crossings and 37 railway stations and halts would be removed, including the palatial passenger terminals of the Buenos Aires Great Southern, Buenos Aires Western, and Central Argentine companies, as well as the former Cordoba Central terminus, now the Argentine State Railway headquarters in the federal capital.

On the other hand, 43 miles of new main-line railway tracks would be constructed, either underground or at high level, and 24 additional miles of underground railways, which latter would act as the connecting links between new main-line passenger termini to be built on the outskirts of the city and the commercial and residential quarters. The total cost at the time when Mr. Farengo read his Paper was estimated at £20,000,000, after allowing credit for very valuable lands which would become available for other purposes, but there is little doubt that the appreciably higher costs of labour and materials to be faced in the post-war reconstruction years will necessitate far greater outlays than were originally expected.

Finance on such a scale would be beyond the capacity of the companies, which was recognised by Mr. Farengo in his Paper and he then expressed the view that the financing of the project would be necessarily a matter for the State. Whether the capacity even of such a first class borrower as the Argentine Government would be sufficient to raise the prodigious amounts of money required to carry out the many costly nationalisation schemes which the Labour Party programme includes, except with help from foreign investors, is a matter which may well give rise to doubts.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Ecclefechan Accident

390, Wakefield Road,
Huddersfield, November 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—From the report on this accident it seems possible that the express driver was running "blind," the class of engine concerned having from my observation a tendency to cause smoke to drift downwards from the chimney. Some later examples of the class have smoke deflectors. From the photograph it would appear that No. 6231 was not so fitted, although they would be likely, in any case, to be torn away by the collision.

As the engine was emitting black smoke just before the accident (and perhaps for a minute or two earlier) even closing of the regulator and turning on the blower might have done nothing to improve the driver's view, and it may be that he decided to take a chance for the short period during which smoke was too thick to permit of a proper view, and assumed the signals to be "off."

Yours faithfully,
W. A. TUPLINCompartment or Open Stock for
Suburban Services7, Oakington Avenue,
Harrow, November 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the recent article entitled "Compartment or Open Stock for Suburban Services" and subsequent correspondence appearing in *The Railway Gazette*, it appears to me that the great difference in seating capacity in favour of the compartment coach has not been sufficiently emphasised. Six-a-side compartment coaches can seat 108; open stock now in use seats 40 to 48.

This difference seems to be practically unknown to the general public, some members of which appear to think that open stock is to be preferred on account of the better facilities for standing that it provides. It is generally overlooked that the first 50 or 60 standing passengers in open stock could all sit in a compartment coach, and any additional standing passengers would be at least as comfortable in a compartment where they would have a better chance of a seat at an intermediate station and less difficulty in alighting. In other words, a compartment coach can provide seats for all who can stand in "comfort" in an open coach.

The choice available to me at the station I use (Farringdon Street) is not between sitting in a compartment coach or sitting in an open coach, or even between standing in a compartment coach or standing in an open coach, but between sitting in a compartment coach or standing in an open coach.

The chief thing a railway passenger wants is a seat, as is clear from the unseemly scrambles that take place at stations during rush hours.

From my experience as a traveller on the Metropolitan section of London Transport for the past 20 years (during the whole of which time both types of vehicles have been in use simultaneously) I know that passengers will wait for a compartment train in preference to standing in one of open stock. It is a common practice at Farringdon Street for passengers to the Uxbridge line stations to avoid the Uxbridge trains (which are of open stock) and instead take the compartment (Watford) trains as far as Harrow, changing there to the Uxbridge trains.

This inconvenience and loss of time is entirely due to the use of open stock on the Uxbridge line instead of compartment stock. In one case a passenger has abandoned the use of his nearest station—Rayners Lane on the Uxbridge line—in favour of North Harrow on the Watford line, in spite of the fact that the latter is three times as far from his home.

A point not taken into consideration by the designers of railway coaches is the fact that the average age of the population is increasing. There are more elderly people, many of whom suffer from varicose veins and find it harmful to stand. Since the first class accommodation has been withdrawn, these people cannot even obtain relief by paying higher fares.

To ascertain the preference of the travelling public, I suggest that as an experiment one row of seats should be removed from each compartment of a train of compartment stock. This would provide as many seats as a train of open stock, the increased standing room said to be so advantageous, and more comfort for the fortunate seated passengers (who, by the way, do not need it as they are in any case more comfortable

than the standing passengers or they would change places). Passengers might be invited to express their opinions on this innovation (if printable!).

The late Metropolitan Railway (famous for its enterprise) reverted to compartment coaches after a long experience of open stock, and in my opinion London Transport would be well advised to do likewise. No "improvement" should be introduced if it costs even one seat. Compartment coaches may be old-fashioned ("retrogressive" I believe is the word) but unquestionably they provide the greatest total comfort for the greatest number of passengers, which is the most important consideration.

Personally, I am not interested in pneumatic doors, air-conditioning, improved lighting, and the rest. If I have a seat I do not mind whether the coach is 50 years old, is lit by oil lamps, and runs on square wheels!

Yours faithfully,
L. G. GUIVER

The Best Railway Map

Hurst Wickham,
Sussex, November 20

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The November-December issue of your associate publication, *The Railway Magazine*, contains an interesting article by Mr. W. J. Skillern, F.L.A., descriptive of the timetable maps of the four main-line railways at the commencement of the 1939 war.

More particulars are given of the G.W.R. map because that line gave fuller details in its timetable maps.

Good as this map is, a "bigger and better" G.W.R. map had been published. I refer to the map of the Great Western Railway issued gratuitously with the December, 1902, issue of *The Railway Magazine*. The map was also on sale separately, price 1s.

The map is on a special paper, and measures approximately 34 in. by 26½ in.; the scale is about nine miles to 1 in. In addition to the complete map are three enlargements of the South Wales Valleys, London, and Bristol districts respectively.

Where there are two or more lines the colour is red; single lines are blue, joint lines green; projected lines are also shown; crossing places on single lines are indicated; junction block boxes, goods lines, and mineral points are distinguished.

Tunnels more than ¼-mile long are positioned, as are gradients steeper than 1 in 100 and longer than ¼ mile, with the direction of ascent shown. The journey times between Paddington and 24 important towns served by the G.W.R. are given.

What should be indicated on the map needed much editorial consideration. As publishing date loomed in the near distance, frequent letters and telephone conversations with G.W.R. headquarters occurred. Time passed; persuasive visits to Paddington became necessary to complete the scheme so that proofs should be available. These had to be verified at Paddington before printing of the map could be commenced.

I was relieved considerably when, after much hustling, the December, 1902, issue of *The Railway Magazine* was on sale only about two days late.

Yours faithfully,
G. A. SEKON

"Another Aid-to-Russia Route"

London, W.C.1, November 16

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It would be regrettable if the final impression left by your admirable article "Another Aid-to-Russia Route" (which appeared at page 50 of your June 1 issue), and the Letter to the Editor from Major-General H. C. Smith, Director-General of the Iraqi State Railways (in your November 9 issue), were to be that there is any conflict of view between the Civil Direction of the Iraqi State Railways and the British Transportation Directorate as to the relative merits of achievement in the general war effort. As both soldier and civilian, General Smith doubtless appreciates to the full the interdependence of railway and military personnel in war. On the basis of "seeing ourselves as others see us," I venture to direct your attention to the following statement, which was published in the journal *Foreign Commerce Weekly* (an official publication of the U.S.A. Department of Commerce) for October 13 last:—

"Since 1941 the British military authorities have closely supervised the management of the Iraqi railways. In addition to the facilities offered by the British, many units were added by them to the existing rolling stock, thus enabling the railway to increase its pre-war maximum carrying capacity by approximately 300 per cent. and to accumulate substantial reserves which it is understood have been earmarked for capital works.

Although statistics are not available, the reserves are now reported to aggregate 4,000,000 dinars."

The Iraq State Railways, it may be recalled, were a product of the 1914 war, and there seems little doubt that the railway administration will benefit substantially from the activities of the British Transportation Directorate in the recent war. Great credit is due to both civil and military authorities for their wartime achievement, and it would be invidious to endeavour to differentiate.

Yours faithfully,

CHARLES E. LEE

Travel from Oxford

15, Cromwell Road, Rugby,
Warwickshire. November 25

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Rugby is 48 miles from Oxford by the shortest rail route. The morning train takes 4 hr. 33 min., a schedule speed of just over 10½ m.p.h.

Perilous.

The afternoon train takes 6 hr. 32 min., a schedule speed of under 7½ m.p.h.

Some going.

There are no other day trains, as doubtless it would be quicker by foot.

Now let us glance at the trains on this the shortest rail route from Oxford to Rugby.

If you should miss the 9.12 a.m. in the morning, the next train is only 11 hr. 13 min. later, that is, 8.25 p.m.

Patience.

Are my comments really necessary?

Travel by the longer route, it's quicker.

Paradoxical.

Yours faithfully,

C. MCCREADY.

L.M.S.R. Change in Locomotive Practice

17, Pembroke Square, W.8.

November 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—When reading the article on "L.M.S.R. Change in Locomotive Practice" in your November 23 issue, some memories of the distant past were awakened in my mind and I had dim recollections of the fact that rocking grates were almost standard in the States at the end of the last century, and, as a matter of fact, I myself when in charge of the Locomotive Department of the C.S.A.R. in 1902 ordered them to be fitted to all new engines ordered for that line, and, furthermore had them fitted with steam cylinders to operate them, which fact can be confirmed by the North British Locomotive Co. Ltd.

They proved eminently satisfactory, and, in fact, on my asking one of our firemen (who was not aware of my identity) what he thought of the idea I was told that the "bloke who had them fitted was the fireman's friend."

These power-operated rocking grates have, I understand, been fitted to all classes of S.A.R. engines ever since, and it seems most strange that the writer of your article seems to be

unaware of the fact and also surprising that a leading British line should only now, more than 40 years late, have suddenly awakened to their utility.

Yours faithfully,

P. A. HYDE

How Railway History Was Made

London, W.C.1. November 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The admirable series of advertisements on "How Railway History Was Made," which is being issued by G. D. Peters & Co. Ltd., and is appearing from time to time in your columns, has been singularly free from anomalies, but there is one in the advertisement "it would be the worse for the coo, said George Stephenson," that is worthy of correction. The date is given as the eighteen-twenties, and the track consists of fish-bellied rails chaired to stone sleepers, but *joined with fish-plates*. All fish-bellied rails met in joint chairs; and the suspended joint was unknown. Fishplates were invented and patented in May, 1847; they were adopted on the old London & North Western Railway in 1853.

Yours faithfully,

CHARLES E. LEE

Spittal-Villach Electrification

"Benholm," Oakfields Avenue,

Knebworth, Herts. November 29

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your correspondents W.H.S. and J.C.H.B., who supplied, in your issue of November 23, such useful and authoritative information regarding the position of the work on the electrification of the Spittal-Villach section at the time of the German collapse, will, no doubt, be interested in an announcement which appeared in the September 21, 1944, issue of the semi-official German transport paper *Deutsche Verkehrs-Nachrichten*.

This announcement gave details of an amendment to the Eisenbahn-Verkehrsordnung (Railway Transport Regulations), designed to allow, subject to certain conditions, of the conveyance of hemp and flax straw loaded in open wagons without the necessity for the wagons to be sheeted. This concession was not to apply to consignments travelling over certain specified electrified lines, and a schedule of such lines included the following entry: Villach—Salzburg—München.

In view of the standing of the *Deutsche Verkehrs-Nachrichten*, which, for many years, was extensively used by European forwarding agents as a source of business intelligence, there is no doubt that this announcement must have led many to believe that the short extension of the electrification, from Spittal to Villach, had, in fact, been completed, particularly as it would have been of such value from an operating point of view, as your original article and J.C.H.B. both stress.

Is it not probable that the Germans were then so confident of completing the electrification of this short section quickly that they thought it desirable to include the section in the schedule of electrified lines, in order to avoid an amendment to the instructions within a short period?

Yours faithfully,

C. E. WHITWORTH

Publications Received

"Our" Railway Histories. By V. Boyd-Carpenter and T. Pearson. Obtainable from the joint authors at Launt House, Workop, Notts. 9 in. x 5½ in. 49 pp. Minimum price 5s. 6d.—This illustrated description of two indoor model railway systems is in part a guide to construction and operation, for the authors relate their varied experiences and describe their plans for the future. Mingled with these practical details is a more apocryphal account of how the Lyonesse Railway (0-gauge) came into being to carry rail communications westwards from the G.W.R. terminus at Penzance; and how the North Midland Railway (00-gauge) was built to serve an area between the L.M.S.R. and L.N.E.R. main lines south of Sheffield, incidentally providing both companies with running powers to an inland port from which steamship services run to Northern Ireland. Both model railways are open to inspection by appointment,

and, as stated in an editorial note on page 582, raise contributions for several railway charities. All proceeds from the sale of this booklet will also go to railway charities. The booklet is on art paper throughout, which enables full justice to be done to the numerous views of the two systems, and to the illustrations of locomotives and rolling stock and their prototypes. The authors point out that although the price listed is 5s. 6d., anyone who so desires may forward a larger sum, which will be acknowledged specially.

The Railway Handbook, 1945-1946.

London: The Railway Publishing Co. Ltd., 33, Tothill Street, Westminster, S.W.1. 8½ in. x 5½ in. 120 pp. Price 4s.—This standard book is designed to provide the railway student with a collection of useful statistics and other information at low price. So far as they are available, all statistical tables have been revised up to the latest possible date. Apart from tables giving international comparisons, the data

are confined mainly to Great Britain and Ireland. An exception is made in the statement regarding electric railways, where it is deemed necessary to cover the whole world in order to present a complete picture of this increasingly-important subject; this has been revised completely for the present edition as a result of a new questionnaire. No new sections are introduced.

An Outstanding Triumph of Human Genius.

The story behind the release of atomic energy set forth in the pamphlet which we have received from the British Thomson-Houston Co. Ltd., is a record of teamwork by physicists, chemists, and engineers in Great Britain, the United States, and Canada. Between them they have achieved what Mr. Churchill has justly described as "one of the greatest triumphs of human genius of which there is record." In this great co-operative enterprise, the British Thomson-Houston Co. Ltd. states that it is proud to have had its share.

The Scrap Heap

FIRST TURKEY TRAIN

The first of the special trains bringing Irish poultry to London for the Christmas market arrived at Paddington Station at 5.30 a.m. on November 23. Between then and December 6 the G.W.R. expects to dispatch from Fishguard to the big markets in Cardiff, Bristol, Birmingham, Leicester, and London over 300,000 turkeys and geese. The bulk will come to London by special trains.

LONDON TRANSPORT KNITTERS

Warco—London Transport's knitting organisation which supplies woollen garments to members of the board's staff serving with the Forces, has issued 99,000 pairs of socks and hundreds of seaboot stockings, scarves, gloves, helmets, and pullovers. A total of 214,544 "Comforts" have been distributed to date. In all, 559 prisoners-of-war each received a parcel containing 2 pairs of socks, 1 pair of gloves, 1 pair of mittens, 1 scarf, 1 helmet, and 1 pullover. Although knitting has now ceased, the garments in hand will be issued as long as stocks last. Applications now come chiefly from men stationed in Germany.

100 YEARS AGO

From THE RAILWAY TIMES, Dec. 6, 1845

BRISTOL AND EXETER RAILWAY.

At a Meeting of the shareholders in the Bristol and Exeter Railway Company, held at the offices of Messrs. Caniffes, Chiswick, and Bury, in Manchester, on Thursday, the 4th day of December, 1845.

HENRY HARTLEY GROUND, Esq., in the chair.

It was unanimously resolved,—
That before a true estimate can be formed by the shareholders of the value of their property, it is imperatively necessary that further information should be obtained both from their own Directors and the Directors of the Great Western Railway Company, with respect to the present traffic on the line, and the means adopted for developing and securing the legitimate resources of the undertaking.

That from the data now before the public, this meeting is of opinion that the shareholders are fully justified in their expectation of an annual dividend on the capital expended, much larger than the perpetual dividend offered by the Great Western Company, under the arrangement between the Directors of the two Companies.

Resolved:—That a Committee, consisting of the following gentlemen, be appointed to take all such measures as they may consider necessary or expedient for obtaining the requisite information, and for protecting the interests of the shareholders in this Company, viz.:—H. H. Ground, Esq.; Wm. R. von, Esq.; J. H. Wanklyn, Esq.; Thos. Lomas, Esq.; Henry Chiswick, Esq.

(Signed) H. H. GROUND, Esq., Chairman,
Manchester, December 4, 1845.



Pitldown breakdown

NATIONALISATION OF TRANSPORT

Transport, on the other hand, is a case where no evidence of a prospective increase in efficiency resulting from nationalisation has been presented. Indeed, if the nationalisation of the railways-cum-long-distance road-haulage gives the railways the "square deal" they have been asking for and reinstates their power to charge monopoly rates which was broken by the development of the internal combustion engine—and this is by long odds the most likely result of the Government's proposals so far as they can be seen—then the result may be a sharp decline in the economic efficiency of the transport industry. "Integration" and "co-ordination" are blessed words; but if they mean monopoly they may be ruinous.—From "The Economist."

PLEASANT JOURNEYS!

The relationship between those who travel on London buses and those who staff them has of late been lacking in that cordiality which adds so much to the enjoyment of travel. The time is at hand to advocate the employment of persons who might be designated as "hostesses" on public service vehicles.

Why reserve the attentions of such charming cicerones to the pampered few who travel on air liners? There would be no need to appoint a hostess for every tram and every bus. All that would be required would be a score or so with a roving mission who would, like ticket inspectors, catch passengers by surprise. An enterprising girl of the right type could soon have a carload of people travelling even to Robertson Avenue roaring with laughter and hoarse with song.—From "The Scotsman."

COMIC BY-PLAY ON THE STAGE OF THE MET.

We have in mind not the Metropolitan, the music hall that tinsels memories of Edgware Road, but the Metropolitan Railway so closely related to its story of slapstick and song. So let an old troupier in transport, Mr. A. J. Fowler, who retired in August, say his epilogue:

'As luck had it, my first day as booking clerk was an August Bank Holiday: the year 1899, the station Great Missenden.

RAILWAY QUESTIONS AND ANSWERS

Statement: The London Passenger Transport Board is an example of how efficiently a public utility can be operated under public ownership.

Answer: This statement errs in suggesting that the L.P.T.B. is State-owned. It is neither State-controlled nor State-owned. It is privately owned, but the stockholders have no control over their property! It is an example of a bad compromise between private and State-ownership. A member of the Labour Party, Lord Latham, who sits on the Board of London Transport, has said that the separation of management from ownership as exemplified by the London Transport scheme "may become in reality a conflict between the public interest and private profit resulting in injustice to owners and disadvantage to the public." Therein lies the weakness of the London Passenger Transport Board. Under the Act forming the Board, the £2½ millions of "C" stock, junior of the six L.P.T.B. stocks, was to have a fixed rate of interest of 5 per cent. paid on it for the two years ended June 30, 1935, and 5½ per cent. thereafter (with a possible increase to 6 per cent.). This was all right in theory, but it never worked out in practice. The best ever paid was 4 per cent., the worst 1½ per cent., representing an average to 1944 of 3½ per cent. per annum. The stockholders had the right if 5½ per cent. was not paid three years running to apply for receivership, but this has never been done, as it was probably thought to be futile. Under the Act forming the Board, the stocks, other than "C" stock, required to be redeemed out of revenue and from June 30, 1943 (or at later dates for a few of the issues), a redemption fund was required to be created to do this in the next 80 years. No such sums have been set aside, because they can be provided only out of the net revenue after paying 5½ per cent. on "C" stock. The capital expenditure includes £4,461,543 for assets displaced and not to be replaced, which have not been written off. There is no general reserve or contingencies fund, but £25,569,751 has been accumulated for renewal funds and an unspecified sum for wartime arrears of repairs. It was clear some time before the war that the financial position of the L.P.T.B. was weak. What will be the outcome after the war cannot be forecast, but what can be said is that if the Board is an example of a stage on the road to nationalisation of public utilities, it is a warning of the fate awaiting investors and the public.—From "Answers to Questions and Statements," issued by the British Main-Line Railway Companies, 22, Palace Chambers, London, S.W.1.

Oceans of milk and tons of fruit, all for the markets. No clerk to instruct me, no knowledge of waybills and "S-to-S" rates, no idea of a barn gallon [a measure, used in the milk trade, equal to two imperial gallons]. I just floundered along.

'Next I entered Baker Street Parcels, under Mr. Lawford. Hard slogging. Lads took parcels all over London for 12s. to 15s. a week—and a cap; but they never grumbled at the hours, 12 to 14 a day.

'The parcel yard was two doors from the "Buffalo's Head," and a policeman used to get our boys to buy ale in billycans and hang these behind the yard gate. So presently you saw a copper glance about him, slip in, and come out drawing a sleeve across his lips!—From "Pennyfare."

TAILPIECE

(The President of the Board of Trade recently said at Manchester that exports must come first)

The burning question of the day
Is how to get our goods away?
For rail restrictions still deter
Supplies from reaching customer.

Trade's hampered much by lack of space,
And cannot with output keep pace,
Although 'tis urged by men of State
That products should increase in rate.

Will railways please come to our aid
And give their help to foster trade,
In getting, ere a New Year's dawn,
Embargoes at the ports withdrawn.

And then the country soon will see
An era of prosperity;
With transport having its full share
Depressions will, indeed, be rare.

W. E. N.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Collision on B.A.R.

A collision occurred on the Bengal Assam Railway between 15 Up "North Bengal Express" and 2 Down "Darjeeling Mail" about 160 miles from Sealdah (Calcutta) in the early hours of November 6. A saloon and a third class brake (the first two coaches behind the engine of 15 Up) were wrecked; and a third class and a combined inter and third class (the second and third coaches on the "Darjeeling Mail") were partially telescoped. Both engines were locked together; that of 15 Up partly mounted the engine of 2 Down. Five persons were killed on the spot, two died en route to hospital, and two died in hospital in Calcutta. All those killed at the site of the accident were passengers on the "North Bengal Express" and were travelling in the third class brake. The injured included the drivers of both trains, the guard of 2 Down, and the two firemen of 15 Up.

The collision occurred on a single-line section close to the Atrai Bridge, which became blocked by a portion of the "Darjeeling Mail"; six country boats were engaged and the passengers of the two trains were transhipped. Three hundred men were drafted to the site, and after nine hours' work, the track was cleared and through communication restored.

The Governor of Bengal (who had passed the site of the accident on the preceding down train) and Mrs. Casey sent an expression of sympathy in a letter to the General Manager of the B.A.R. His Excellency the Viceroy, Sir Edward Benthall (Member for War Transport of the Viceroy's Executive Council), and Sir Arthur Griffin (Chief Commissioner of Railways) sent similar messages.

An inquiry into the accident has been opened by Mr. K. L. Ganguly, Government Inspector of Railways.

SOUTH AFRICA

Road Motor Services

The South African Railways road motor services, which are operated over more than 18,000 route miles, earned £1,413,000 in 1945, but showed a working loss of £319,603, due largely to high operating costs, including repairs, petrol, spares, tyres, and cost of living allowances paid to staff. Another factor was the policy, dictated by the desire to assist the farming community, of carrying certain commodities at low and virtually uneconomic rates. Last year more than 350,000 tons of manure were conveyed at very low rates.

The customs duty which would be paid on petrol, and from which the road motor services are exempt, are of minor significance in relation to the other factors with which the road motor services have to contend. In spite of high operating costs and operational difficulties the road motor services have had to expand. The conveyance of seasonal grain crops from farm to railhead has had to be undertaken on an increased scale. To provide for the development of the country, new services have had to be inaugurated which, at the commencement, could only be operated at a loss, but the country draws dividends in developing areas and new sources of production. During the recent meat shortage matters would have been very much worse had it not been for the fact that healthy cattle from quarantine areas could be

brought by the road motor services to the railhead without the risk of contamination from animals along the road. Large numbers of stock were also saved from starvation by the transport of fodder at very low rates to drought-stricken areas.

Railway Financial Position

The working of the South African railways, harbours, steamships, and airways for July, 1945, resulted in a net deficit of £274,121, which is £259,912 greater than the corresponding figure for July, 1944. The total revenue from all services was £5,378,275, an advance of £668,700 over the earnings for the corresponding month last year. Expenditure was £928,612 greater than in July, 1944, as a result mainly of increased salaries and wages, higher cost of living allowances and additional maintenance and operating costs. Compared with the estimate, revenue showed an increase of £191,814, but, expenditure amounted to £467,434 in excess of the estimated figure. The accumulated deficit for the four months April to July, 1945, rose to £915,884, which is nearly double the deficit of £468,028 incurred during the corresponding period of last year.

The results of working the railways, harbours, steamships, and airways for the month of August, 1945, and the period April to August, 1945, are as follow:—

	August	April-August
Revenue	£5,403,436	£25,800,843
Expenditure	£5,630,092	£26,943,383
Deficit	£226,656	£1,142,540

KENYA & UGANDA

Water Shortage

Three years of poor rains have left the water resources of Kenya depleted, and great difficulty has been experienced in maintaining essential services during the present year in the gaps between short rains and the heavy rains. During March and April a service of four water trains had to be maintained daily between Nairobi and the nearest source of supply, 18 miles away, and the train service through the vital junction of Nakuru had to be restricted at a period when the seasonal crop movements were heaviest. During October, 136,000 gal. of water were railed daily into Nairobi.

Pilferages

As with other railways, thefts from goods wagons very greatly increased during the war. The slow movement of laden goods trains over heavy grades makes this railway particularly vulnerable to wagon breaking. To keep this type of theft under control permanent police patrols have been organised, and a mobile railway police unit is now in operation. A goods wagon which can be attached to any goods train has been specially fitted up to accommodate the police and a much more effective patrol is made possible.

Ventilated Wagons

In *The Railway Gazette* of March 14, 1941, an article described how perishables were conveyed long distances in Western Australia, where no refrigerating vans were available, in ventilated vans of a type evolved locally. As there is a similar problem in East Africa, the Western Australian Railways were written to, and the Secretary of that railway kindly supplied drawings of the vehicles. In the

result, 16 covered goods wagons were converted to the Australian design with some local modification, and these wagons have given very satisfactory service in the transport of vegetables and other perishable traffic, which greatly increased during the war. The outstanding advantage of the vehicle is that not only does it serve the purpose for which it was designed, but it can be used for other traffic.

Road Transport

The end of the war in the Far East and the release of numbers of military vehicles, will bring the problem of road transport again to the fore. Already there has been a great increase in activity in the Transport Licensing Board, and the position will have to be carefully watched if superfluous transport is not to be released in areas already adequately served by the railway.

CANADA

C.N.R. Financial Forecast for 1945

The Canadian National Railways probably should show a surplus of \$25,000,000 for 1945, \$2,000,000 more than for 1944, Mr. R. C. Vaughan, Chairman & President, C.N.R., informed the Canadian House of Commons Railway Committee on October 23. Mr. Vaughan presented a statement reviewing the 1945 operations to date. For the nine months ended September 30, the railway had had a gross revenue of \$327,320,000, which was \$828,000 less than for the corresponding period of 1944. Budget forecasts provided for a 1945 revenue of \$433,000,000, a reduction of \$8,000,000 from 1944. Before the war the railway had shown revenue in excess of \$300,000,000 in one year only (1928). Operating expenses for the first nine months of 1945 had been \$265,247,000, a reduction of \$1,690,000 from the same period of 1944. The 1945 budget provided for expenditures of \$354,800,000, a decrease of \$7,700,000 from 1944.

"Assuming our forecasts are found to be reasonably correct," said Mr. Vaughan, "we shall have net revenue in 1945 of \$78,200,000, compared with \$78,600,000 in 1944, and, after providing for other income charges and for interest payable to the public and to the Government we expect to report an overall surplus of \$25,000,000, or \$2,000,000 more than in 1944."

Continuing, Mr. Vaughan said that the war had demonstrated beyond any doubt the capacity of the C.N.R. to handle traffic and "tremendous" volume, and it was obvious from the figures given the committee that with volume the railway could be operated at a profit. He felt it necessary, however, to sound a note of caution. It was probable that with the war emergency over traffic would recede from its wartime levels. To what extent it would recede they would have to wait to find out.

Increased Costs

All the indications were that there was going to be more work in Canada than there had been before the war, and that there would be more work for the railways. In the past the railways had been able to earn a surplus on a gross revenue of \$300,000,000. The picture had changed in the interval because prices of labour and materials had been substantially increased.

Due to shortages of labour and materials, repairs and renewals not immediately essential had had to be deferred and to that extent a reserve had been provided by direct charges in operating expenses. At the end of 1944 the reserve had totalled \$34,000,000, and it was expected a further sum of between \$6,000,000 and \$7,000,000

would be provided this year. This was a cash reserve, with the funds being invested in Victory Bonds. Apart from special provision to protect post-war revenues against delayed wartime costs, the railway had had to shoulder higher wage rates and higher unit prices for materials. Despite those added costs and the special provisions, surplus earnings during the six war years, with 1945 estimated at \$25,000,000, would have amounted to \$95,780,887, all paid to the Government in cash. The railways also had paid to the Government \$80,271,910 in cash for interest and \$66,500,000 in cash for duty and sales tax. Total investments in Victory Bonds from reserves amounted to \$77,076,000. The railway had financed capital expenditures out of the amount available from depreciation reserves to the extent of \$98,427,000. C.N.R. employees had made Victory Bond payroll subscriptions totalling \$62,813,200; their individual pay cheque deductions for income tax during 1944 had totalled \$21,076,301.

Mr. Vaughan added that there had been some reduction in interest charges, but that they still absorbed "far too large" a proportion of gross earnings. Last year 11.44 per cent. of gross revenues had been absorbed by fixed charges; in 1939 the proportion had been 26.24 per cent.

NORTHERN IRELAND

L.M.S.R. (N.C.C.) New-Type Coach

A corridor coach recently placed in service on the L.M.S.R. (Northern Counties Committee) between Belfast and Londonderry represents an example of modern reconstruction and a foretaste of the improved accommodation passengers may expect as soon as conditions permit of the work being carried out. The coach, originally a third class carriage of centre-corridor type, had been transformed early in the war into a stretcher-car component of an ambulance train. The new lay-out provides a first class saloon and two coupés with side corridor, and a second class centre-corridor saloon.

The first class saloon has ten seats, four of which are armchairs which can be moved as desired. The first class coupés represent a notable advance in design.

Uncut tangerine moquette is used for the upholstery throughout the coach. In the second class saloon the moquette is faced with leather. All the panelling is of rexine, the upper part beige and the lower dark brown.

FRANCE

Railway Reconstruction Exhibition

The astonishing progress made by France in the restoration of her devastated transport system in one year is well illustrated in an exhibition of photographs, maps and models recently opened in Paris by M. Soustelle, Minister of Information.

How completely the country was paralysed by the destruction of railways, roads, ports and inland waterways equipment is graphically shown in a panoramic map of France covering a surface of about 450 sq. ft. Luminous tubes, of different colours for railways, roads and rivers, light up as a loudspeaker calls attention to the progress made in reconstruction between September, 1944, and August, 1945. With only a few tubes glowing here and there at the start, the onlooker is startled by the contrasting darkness elsewhere, indicating the almost complete lack of means of transport throughout the country. Equally impressive is the lighting up of the long tubes

to show one railway, road or canal after another again brought into use.

Photographs depict the hardships of bridge rebuilding in the winter and many other phases of reconstruction. Diagrams show by luminous tubes the circuitous routes taken by trains before bridges were restored temporarily. For instance, the time from Paris to Bordeaux was at first 24 hours, when passengers were ferried across the River Loire and then taken by a circuitous route through Montauban and Agen to Bordeaux. When the Orleans bridge was re-opened the time dropped to 22 hours, and then to 14½ hours when trains could go round by Vierzon, Tours and Poitiers. Next the time fell to 11 hours 40 minutes, when the Montlouis bridge near Tours was rebuilt; and, finally, with further repairs to bridges and lines, the time became 7 hours 40 minutes, comparing well with pre-war timetables.

American-Built Locomotives

Further improvements in rail transport depend largely on an increase in the number of locomotives, coaches and wagons. Some of the 700 locomotives, built in America to specifications of the French National Railways Company (S.N.C.F.) (to which reference has already been made in *The Railway Gazette*), are in course of delivery at French ports. Two American ships each have discharged four locomotives at Marseilles, and further consignments are expected at the same and other ports until full delivery is completed in February.

Contracts for the 700 engines were placed last January under lend-lease agreements with the Baldwin Locomotive Company, the American Locomotive Company, and the Lima Locomotive Company. The locomotives each weigh 106 tons, have four driving axles, and are designed to haul express trains at a maximum speed of 100 km.p.h. (62 m.p.h.).

Negotiations are in progress for a further order, for 500 locomotives, to be built by American firms. This order is not to be included in the former lend-lease agreements. But it is understood that financial arrangements for the purpose of these engines are practically completed between the Export-Import Bank and the French buying mission. The news that the United States is granting France a credit of \$550 million through the Export-Import Bank for the general reconstruction programme of 1946 doubtless will permit the purchase to be made immediately.

RUSSIA

Fourth Five-Year-Plan and Railways

Considerable plans for the development of the Russian railway system have been evolved within the framework of the Fourth Five-Year Plan, which is to terminate in 1950. One of the most ambitious projects in this connection is for a line to cross northern Russia and link Leningrad in the west with Okhotsk, on the Pacific coast, in the east. The first plan for this railway was made in 1919, in connection with the discovery, in the northern regions of central Siberia, of extensive mineral deposits, with coal prevalent in the Tungus districts. In 1937 a special committee, headed by M. Gronov, was appointed to elaborate the definite scheme; and eventually the plan evolved by Engineer Inglinko was adopted. According to this project, two lines, to originate in Moscow and Leningrad, respectively, are to converge towards the region of the upper course of the River Pechora. After the junction, the line is to cross the range of the Northern Ural to the south of the Tel-pos-Iz mountain, and then descend

into the valley of the Ob River. The line is to keep to this upstream as far as the mouth of the Irtysh River, whence it is to turn east, and, after crossing the Yenisei River, traverse the Tungus region, extending between the Yenisei and Lena Rivers. In its further course for the east the line is to be linked with the system of railways being projected in the region between the Amur River in the south (along the northern bank of which the present trans-Siberian line runs) and the Kolyma River in the north. As the main artery of this system, the line between Vitim (on the upper course of the Lena River) and Yakutsk (on the easternmost bend of the river, further north) is envisaged. From Yakutsk the northern trans-Siberian line would follow the course of the Rivers Alden and its eastern tributary Maïa, and, after having crossed the northern heights of the Stanovoi mountain range would descend into Okhotsk. The Yakutsk-Okhotsk section of the line, together with the system of lines projected to the south of Yakutsk, was shown on the map published in *The Railway Gazette* of May 25, 1945.

Difficulties of Construction

It is stated that the greatest difficulties in the construction of the line would be met in the transport of the building material to the comparatively remote regions which the line is to traverse. Only the great rivers, like the Yenisei and Lena, form convenient means of access during part of the year, and then only for the adjacent regions. An extensive road system probably would have to be created preparatory to the building of the railway. The position is somewhat different in the east (to the north of the Amur), where the important iron-ore regions which have been developed since before the recent war enabled a number of iron and steel works to be established, the production of which is stated to include rails and other materials, and locomotives.

The rich mineral deposits which have been discovered in the regions to be traversed by the new railway are said to comprise copper, platinum, graphite, mineral oil and, as already mentioned, coal.

The western branch of the proposed railway may probably be considered the line leading from Kotlas in a north-easterly direction, which is, eventually, to reach the port of Khabarova on the Kara Sea. The line has been completed during the war as far north as Ust Vorkuta, but the northern trans-Siberian line probably would branch off further south. From Kotlas, the line bifurcates to the south-west (for Moscow) and to the west as far as Konosha (on the Moscow-Archangel main line), whence there is a gap as far as Leningrad (the present route connecting Konosha with Leningrad leads via Vologda and Cherepovets). The map published in *The Railway Gazette* of December 10, 1943, illustrates the position outlined above.

Electrification and Other Plans

Other railway schemes connected with the 1946-50 Five-Year Plan envisage the electrification of some 3,730 miles of line. In the meantime, the greatest attention is being paid to the rapid improvement of existing lines and the building of shorter lines, mainly to ameliorate communications in highly-industrialised regions. A few weeks ago, an electric line, about 99 miles long, branching off from the double-track main line between Cheliabinsk and Zlatoust in the industrial region of the Central Ural mountain range, was opened to traffic. A further line is being built, between Zlatoust and Kropatchevo to the south west, and is to be completed within the next few months.

A Locomotive Rebuild in Nigeria

Improved performance effected by redesigned cylinders and exhaust passages

IN 1925, twenty-seven 4-8-0 type tender locomotives were purchased for the Nigerian Railway. Although the engines have given good service, they have never been particularly free "steamers" and the coal and water consumption has been excessive considering the moderate load hauled.

After the fracture of the cylinder on one engine of the class, therefore, it was decided to carry out a rebuild, using cylinders of an entirely different design and taking the opportunity to incorporate exhaust pas-

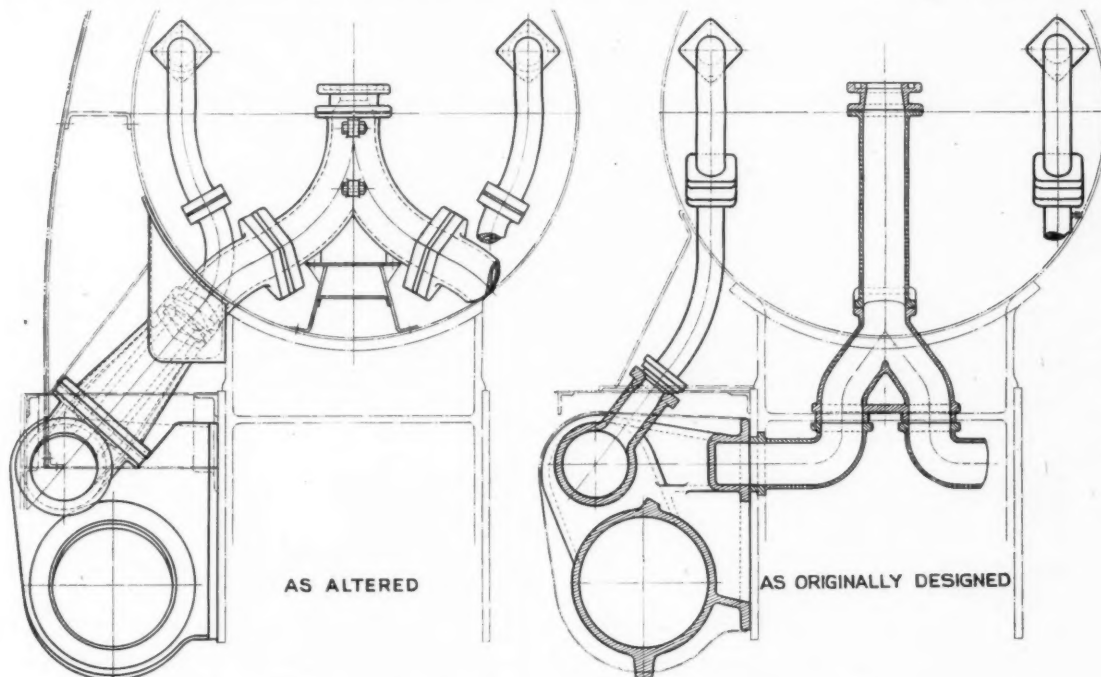
sages of more ample area, and with straighter contours. A pattern was prepared, and the cylinders were cast and machined complete in Ebute Metta Workshops.

It will be seen from the diagram reproduced that steam is conveyed from the branch steam pipes to the steam chest, and from the cylinder exhaust passages to the blast pipe, through a cast-iron mono-block; the fitting of this necessitated cutting the sides away from the smokebox saddle, so that the smokebox is supported

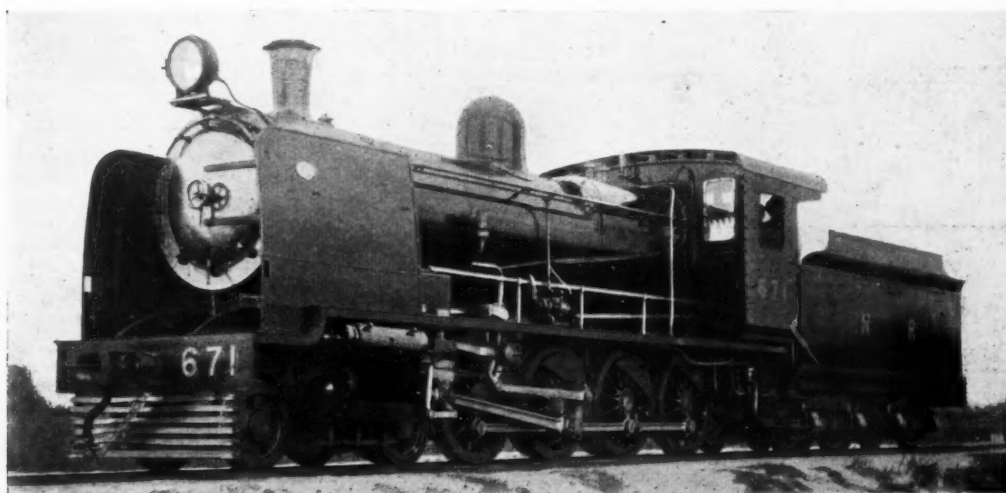
at back and front of saddle only. The flange of the mono-block replaces the sides of the saddle, although the joint so formed is merely air-tight, and does not support the smokebox in any way. The blast pipe has four legs, and is joined to the mono-block by short pieces of fabricated piping. It is supported by a stand which is bolted to the bottom of the smokebox.

The smokebox is fitted with baffles to effect ejection of ashes through the chimney. To get the centre line of the chimney in line with the centre of the cylinders and thus equalise the four exhaust passages, it was necessary to move the boiler back 8 in. in the frame, and this involved slight modification to the ashpan and other fittings. A new chimney was also designed and fitted.

(Continued on page 592)



Disposition of steam pipes, cylinders, and blast pipe, showing mono-block casting in rebuilt locomotive



General appearance of the rebuilt locomotive

Fire Fighting Hazards on Electrified Lines

The New Haven Railroad, U.S.A., conducts tests with streams of water projected on to a screen energised at 12,000 volts

Some experiments of particular importance to electrically-operated railways have been carried out recently by the New York, New Haven & Hartford Railroad, which has overhead equipment, using a.c. current at 11,000 volts, over more than 70 miles of its main Boston line from New York to New Haven. The tests have been designed to investigate the hazards connected with the use of streams of water from hoses and other fire-fighting equipment in the vicinity of wiring carrying high tension current, such as railway overhead conductors. Special equipment was prepared for the tests, which were made in New Haven with the co-operation of the Chief of the New Haven Fire Department.

The annexed diagram, for the use of which, with the following particulars, we are indebted to the *Railway Age*, shows the method of wiring used in the test equipment. A fine screen of wire mesh, 6 ft. long x 4 ft. deep, was suspended with its lower edge 18 ft. above ground, by insulated wires attached to two wooden uprights. The two wires and the screen were connected to one terminal of a transformer of 5 kW, 25 cycles (2 kW at 60 cycles), which stepped up the local 110-volt current to about 12,000 volts; the other terminal of the transformer was earthed. Closing the circuit through the transformer caused a green lamp to light. To the cross-wires supporting the screen a 100 to 1 potential transformer was connected; this operated a voltmeter which indicated the potential of the current passing through the screen.

The tests consisted in projecting on to the screen streams of water, both fresh and

nozzle and to earth there was also connected a sensitive relay, capable of operating on as feeble a current as 6 milliamperes; this connection passed through an auxiliary relay which caused a bell to ring and a red lamp to light whenever sufficient current passed from the screen down the stream of water to the nozzle to cause the relay to function.

Experiments began with a nozzle of 1½ in. dia., projecting at the screen a stream of fresh water at 60 lb. per sq. in. from a distance of 30 ft. With the screen energised at 12,000 volts no current whatever could be detected as passing to the nozzle. At 27 ft. slight intermittent kicks

EXPERIMENTS AT NEW HAVEN, U.S.A., IN PROJECTING WATER FROM DIFFERENT NOZZLES ON TO SCREEN ENERGISED AT 12,000 VOLTS

Test	Screen voltage	Type of water	Nozzle					Stream current	Conclusion
			Type	Pressure	Dia.	Distance	Voltage		
A	11,800	Salt	Stream	55	1	15	30-50	Unknown	Dangerous
B	12,000	"	Spray	100	1	15	Under 1½	Nil	Safe
C	12,000	"	Stream	40	1½	40	"	"	"
D	12,000	"	"	65	1½	40	"	"	"
E	12,000	"	"	45	1½	45	"	"	"
F	11,800	Fresh	"	60	1½	30	"	"	"
G	11,500	"	"	60	1½	10	50-60	5	Dangerous

were seen at the meter, too small to be measured, and touching the nozzle with the bare hand resulted in a slight tingling sensation. At 25 ft., a current of 10 volts and 150 milliamperes could be measured; this gave an unpleasant shock, though it

100 ft. in all, connected the fire float with the nozzle, and this fact introduced complications, as the lengthy hose had the effect of earthing the nozzle. A stream of water at 45 lb. per sq. in. was pumped through a nozzle 1½ in. dia., but although no current readings could be obtained on the instrument, a 20-ampere fuse on the input side was blown, and the voltage on the screen came down to between 5,000 and 6,000, indicating that the open stream of water was highly conductive.

The length of hose from the fire float was then increased to 500 ft., and the 20-ampere fuse was replaced by one of 30 amperes, the maximum current which would flow in the l.t. winding with the h.t. winding practically short-circuited by the stream of salt water. The 30 amperes of current in the supply circuit caused such a drop in the supply voltage, however, that the voltage in the screen was reduced

to between 6,000 and 8,000. With the nozzle 40 ft. from the screen, and a 1½ in. dia. nozzle passing salt water at 50 lb. per sq. in., the h.t. voltmeter showed no signs of current passing, nor was there any evidence with a fine spray nozzle at 70 lb. per sq. in., 12 ft. from the screen, though the salt spray quickly caused arcing over the insulators in the wires supporting the screen.

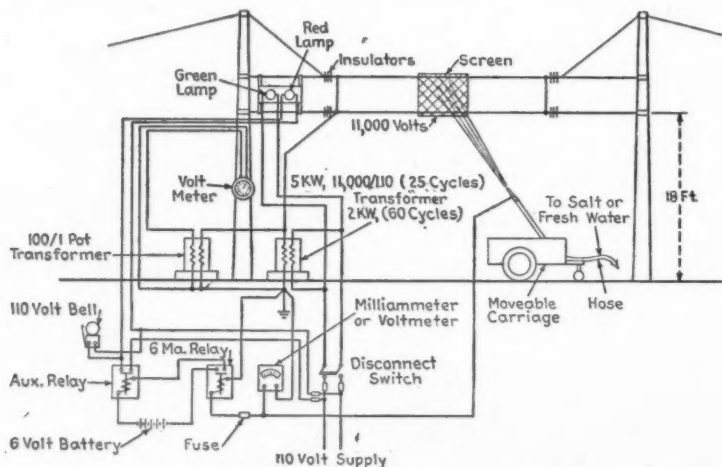
The table gives details of the principal tests conducted. The test with salt water at 55 lb. per sq. in. through a 1 in. dia. nozzle at 15 ft. (A) was regarded as hazardous, with the nozzle voltage varying from 30 to 50; the test with fresh water at 60 lb. per sq. in. through a 1½ in. dia. nozzle at 10 ft., producing a 50 to 60-volt current at the nozzle, was also considered dangerous. From the other tests, however, it appeared to be safe to use a stream of fresh water at 30 ft., or of salt water at 40 ft., or a fine spray of salt water from as little as 15 ft. distance from the overhead conductors.

A Locomotive Rebuild in Nigeria— (Concluded from page 591)

A comparison of dimensions as in original and as rebuilt is as follows:—

	As originally designed	As rebuilt
Boiler pressure	160 lb. per sq. in.	180 lb. per sq. in.
Cylinder dia.	18 in.	17 in.
Tractive force (at 85% b.p.)	21,113 lb.	20,230 lb.

The improvement in performance after the alteration has come up to expectations. Steaming is considerably improved, and the ability to maintain full pressure has enabled greater loads to be taken than with the engine as originally designed. Economy in coal and water consumption also has been effected, and the enlarged area of exhaust passages has given an extremely free-running engine. More engines of the class are to be rebuilt as opportunity offers.



Arrangement of apparatus and wiring diagram for conductivity tests

salt, from a movable carriage which made it possible to vary the distance between the nozzle and the screen; variations were made also in the type and diameter of nozzle used, and in the pressure of the water. To each nozzle in use there was connected, by a heavily insulated flexible cable, a combined voltmeter and milliammeter of the Westinghouse PM-32 type, and the other terminal of this instrument was earthed. To the wire running to the

could not be considered as dangerous. At 8 ft. the current measured at the nozzle rose to an average of 300 volts, and the milliammeter reading was off the scale; this was considered dangerous. With a nozzle delivering very fine spray instead of a stream of water, however, this could be directed at the screen from 8 ft. without any current being detected at the nozzle.

When a change was made from fresh to salt water, two lengths of hose, about

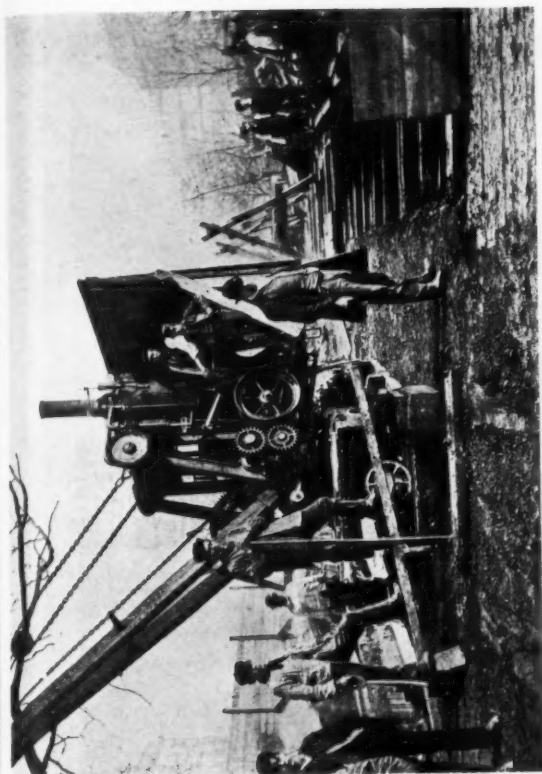
Building the Inner Circle Railway—2 1865-1868



Clearance of site and excavation for retaining walls before main excavation



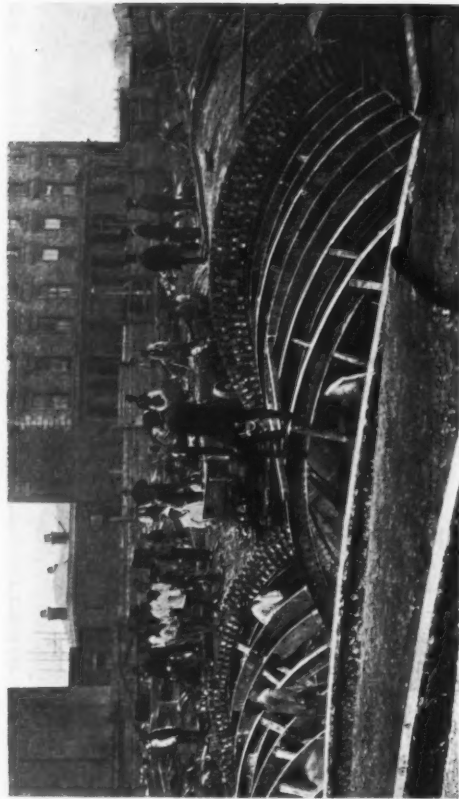
Excavation in centre of street; a striking example of surface dislocation of cut-and-cover shallow subways



Steam crane removing spoil from excavation



Cut-and-cover excavation complete. Materials collected ready for brickwork in walling and cover. Note shoring



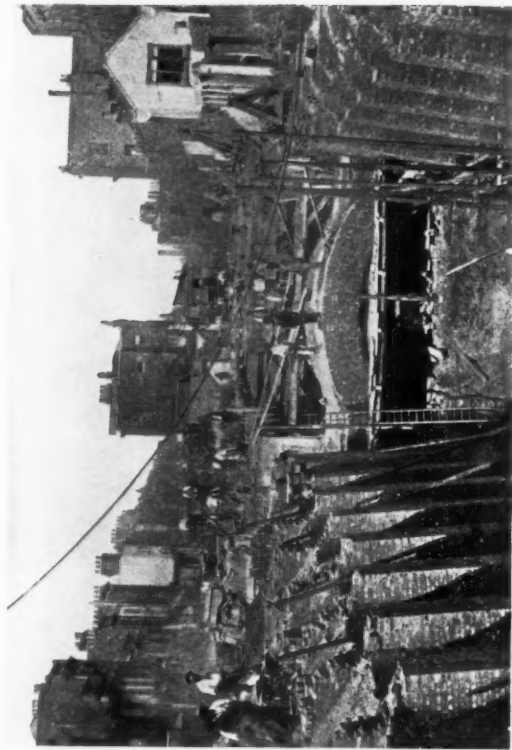
Twin-tunnel five-ring arching in progress on steel centring. Each tunnel accommodates a double line, on the Gloucester Road section



Tunnel centring progressing. Note side-wall excavation and shoring, also crane track



Timbering over wide excavation for multiple-track section where Metropolitan and District double lines run parallel



Line passes from open cut into tunnel. Buttress-and-horizontal-arch type retaining walls nearly completed. Section of heavy tunnel arching also finished

RAILWAY NEWS SECTION

PERSONAL

Mr. Oliver R. H. Bury has retired from the board of the London & North Eastern Railway Company, of which he has been a member since 1923, before which he was a Director of the Great Northern Railway Company for ten years, and General Manager of the latter railway from 1902 to 1912.

The directors of the London & North Eastern Railway Company have appointed the Rt. Hon. Ralph Assheton, M.P., to fill the vacancy on the board.

Mr. A. S. Matthews, Secretary, Central Argentine Railway Limited, has been elected a Director, and will continue to act as Secretary of the company.

Lord Portal, Chairman of the Great Western Railway Company, and the directors, with Sir James Milne, General Manager, and the chief officers of the company, on November 29 entertained to luncheon Mr. F. J. Burrows, Governor-designate of Bengal, a G.W.R. employee and formerly President of the National Union of Railwaymen.

We regret to record the death on November 26 of Mr. William Hamilton Burns, formerly Chief Engineer (Open Line), South Indian Railway, who retired in 1932.

Colonel R. B. H. Whitby, Deputy General Manager (Road Transport), East Indian Railway, is on leave in England until early in the New Year.

The Brazilian Ambassador recently bestowed the insignia of the Order of the Southern Cross, conferred by the Brazilian Government, on Mr. George Macaulay Booth. Mr. Booth is Chairman of the San Paulo (Brazilian) Railway Co. Ltd.

L.N.E.R. APPOINTMENTS

Dr. J. Sharp Grant, Assistant Medical Officer (North Eastern & Scottish Area), to be Assistant Medical Officer (Southern Area) on a temporary basis.

Mr. J. Chappell, Estate Surveyor's Office (Southern Area), to be Assistant to Estate Surveyor (Southern Area), in succession to Mr. A. R. A. Bates, retired.

Mr. F. A. Gilberthorpe, Acting Resident Manager, Great Northern Hotel, Kings Cross, to be Restaurant Car Superintendent (Southern Area).

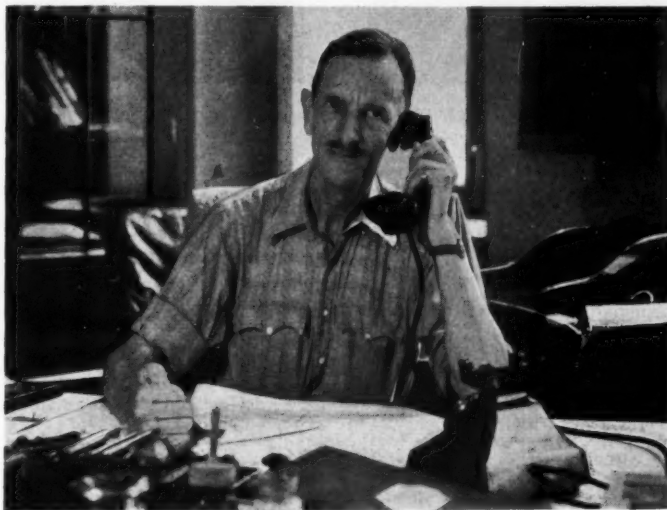
The Minister of War Transport has appointed Mr. S. W. Nelson to be Regional Transport Commissioner, Northern Region, and Chairman of Traffic Commissioners, Northern Traffic Area, in succession to Sir John Maxwell, C.M.G., who is retiring on December 31, after having served as a Chairman of Traffic Commissioners since the Road Traffic Act, 1930, came into operation. Mr. Nelson was Clerk to Traffic Commissioners, West Midland Region, until 1936. From 1936-39 he was seconded to the Colonial Office to act as Chairman of the Transport Licensing Board in the Federated Malay States. In 1941 he was seconded to the Government of Ceylon to examine the transport system, and to make recommendations for the co-ordination of traffic on roads and railways, and was made Director of Transport in that country in 1942.

Mr. Ronald Ord Campbell Thomson, O.B.E., M.C., A.M.Inst.C.E., who, as recorded in our May 18 issue, has been appointed Controller of Stores, North Western Railway, India, was born at Udaipur, India, on December 11, 1892. His father was Mr. Campbell Thomson, who retired from the position of Chief Engineer, N.W.R., in 1901. Mr. R. O. C. Thomson was educated at Bedales, London University and the City & Guilds College. He served a pupilage on the Midland & Great Northern Railway, which was interrupted by the 1914-18 war. Mr. Thomson served with the 5th Norfolk Regiment, the Royal Naval Division, and the Royal Engineers. He saw active service at Gallipoli, Salonika, in Serbia, the Caucasus,

Lord Burghley has been elected a Director of the Peruvian Corporation Limited. He is a Director of the London & North Eastern Railway Company.

Lord Burghley has rejoined the board of the Firestone Tyre & Rubber Co. Ltd., subsequent to the completion of his term of office as Governor of Bermuda.

The following appointments as Directors have been made by the General Electric Co. Ltd.: Mr. W. Horsfall, Manager of G.E.C. Branches for North-Eastern Area; Mr. F. Lonsdale, Fraser & Chalmers Engineering Works; Mr. R. E. Robinson, G.E.C. Telephone Works, Coventry; Mr. W. H. Williams, Head Office, London.



Mr. R. O. C. Thomson

Appointed Controller of Stores, N.W.R., India

and elsewhere. He was wounded once, mentioned in despatches three times and awarded the M.C. At the end of the war he was a Captain in the Royal Engineers. Mr. Thomson was appointed to the Indian State Railways in October, 1919. After a year as an Assistant Engineer in the Karachi district of the N.W.R., he was transferred to the construction of the Khyber Railway, where he remained until 1925. Thereafter he was an Executive Engineer on the following constructions: Amritsar (Verka)-Dera Baba Nanak-Narawal; Jassar-Chak Amru; and Chiniot-Khushab. In 1933 he worked on the road-rail development survey in the Nira Valley (Bombay Deccan). On return to the N.W.R. he was Executive Engineer at Ferozepur and Rawalpindi. From January, 1936, to May, 1941, Mr. Thomson was Executive Engineer (Earthquake Reconstruction) at Quetta, after which he was made an O.B.E. From August, 1941, until September, 1943, he was Lt.-Colonel in the Indian Engineers, Construction & Maintenance Units, and served in India and Iraq. From October, 1943, until April, 1945, he was Engineer-in-Chief, and later, Chief Engineer, Assam Lines of Communication, B.A.R., and worked on the development and doubling project between Abdulpur and Tinsukia. Mr. Thomson returned to the N.W.R. in April, 1945, and was posted as Controller of Stores.

Mrs. Fairburn wishes to express to the many friends and colleagues of her late husband, C. E. Fairburn, M.A., Chief Mechanical & Electrical Engineer, L.M.S.R., her grateful thanks for the kindness and sympathy shown to her in her great loss; she was very moved by the wonderful tribute at the Crematorium. It has been a great comfort to her to know that he was held in such high esteem by all who worked with him and knew him.

Mr. James Briggs, M.Inst.C.E., Assistant Engineer (Permanent Way), Chief Civil Engineer's Department, Watford H.Q., L.M.S.R., who, as recorded in our November 16 issue, has been appointed Assistant Engineer, Chief Civil Engineer's Department, Watford H.Q., is the eldest son of the late Mr. James Briggs, C.B.E., at one time Engineer-in-Chief, Midland Railway. He joined the Chief Engineer's staff of the former Midland Railway in 1908, and in 1912 was appointed Assistant to the Western Divisional Engineer. In October, 1914, he was granted a temporary commission in the Royal Engineers and proceeded to France in February, 1915, serving there until 1919. During this period he was engaged on various railway construction works under the Director-General of Transportation and was promoted Captain in April, 1916, and Major in June, 1918. He



Elliot

[& Fry

Mr. James Briggs

Appointed Assistant Engineer, Chief Civil Engineer's Department, L.M.S.R.

was mentioned in despatches on March 16, 1919. He returned to railway service in the New Works Section of the Chief Engineer's Department, Midland Railway, and in October, 1920, was appointed Southern Divisional Engineer. He continued in a corresponding position under the L.M.S.R. until 1928, when he became District Engineer, Bangor; and he was transferred to the Chief Engineer's Office, St. Pancras, as Senior Assistant (Permanent Way) in 1935. Mr. Briggs was appointed Assistant Engineer (Permanent Way), St. Pancras, in November, 1937. He is a Major in the Engineer & Railway Staff Corps, R.E.(T.A.).

Mr. H. B. Everard, B.A., A.M.Inst.C.E., Senior Assistant (Permanent Way), Chief Civil Engineer's Department, Watford H.Q., L.M.S.R., who, as recorded in our November 16 issue, has been appointed Assistant Engineer (Permanent Way), Chief Civil Engineer's Department, Watford H.Q., was

**Mr. H. B. Everard**

Appointed Assistant Engineer (Permanent Way), Chief Civil Engineer's Department, L.M.S.R.

born in 1897 and educated at Marlborough and Cambridge; his entrance to the university was deferred on account of the outbreak of war in 1914. Joining the Rifle Brigade as 2nd Lieutenant, in 1915, he saw service in France, was promoted Captain in 1916 and was wounded on the Somme. During 1918 he was engaged at the Foreign Office under the late Lord Balfour and Lord Curzon of Kedleston and was sent to Egypt and Palestine in 1919; he was demobilised on his return to England at the end of that year. He then entered Trinity College, Cambridge, taking an engineering degree and becoming a Bachelor of Arts. Coming down from Cambridge in 1922, Mr. Everard joined the old Midland Railway as a cadet under Mr. James Briggs, Engineer-in-Chief, and was posted to the New Works Department. In 1924 he was given the position of Resident Engineer on several new colliery branches and subsequently supervised the con-

**Mr. W. H. Best**

Appointed Senior Assistant (Permanent Way), Chief Civil Engineer's Department, L.M.S.R.

struction of the Mid-Notts. Joint Lines. In 1931 he was appointed Chief Assistant to the District Engineer, Derby (South). Mr. Everard was appointed District Engineer, Derby (South), in 1934, and Senior Assistant (Permanent Way), Chief Civil Engineer's Department, Watford H.Q., at the end of 1944. On account of the national situation about the middle of 1939, Mr. Everard was released by the railway company to rejoin the Colours, with the rank of Lt.-Colonel, when he proceeded to form the 2/5th Battalion, The Sherwood Foresters. Shortly after the outbreak of war he proceeded with his battalion to France, and he was taken prisoner in 1940. He resumed his railway duties at the beginning of September last.

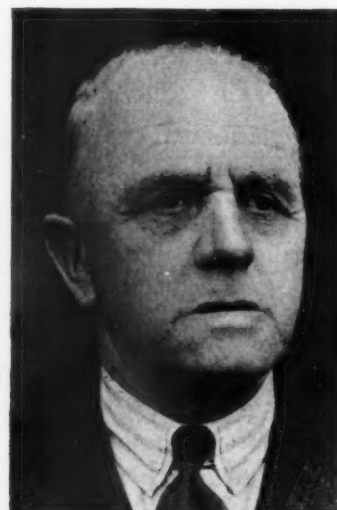
Mr. W. H. Best, B.Sc. (Eng.), A.M.Inst.C.E., Acting Senior Assistant (Permanent Way), Chief Civil Engineer's Department, Watford H.Q., L.M.S.R.,

**Mr. W. E. Blakesley**

Appointed District Locomotive Superintendent, Bristol, L.M.S.R.

**Mr. F. D. Taylor**

Appointed Assistant to General Manager for Personnel, Buenos Ayres & Pacific Railway

**Mr. Warren Storey**

Appointed Electrical Engineer, Irish Transport Company

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who, as recorded in our November 16 issue, has been appointed Senior Assistant (Permanent Way) in that department, was born in 1905 in Bournemouth. He was educated at Merchant Taylors' School, and studied civil engineering at University College, London, and graduated B.Sc. (Eng.) in 1926. He joined the L.M.S.R. as a pupil in 1926, and worked under Mr. H. P. Miles and Mr. E. H. d'E. Darby, successively Divisional Engineers at Derby. He obtained subsequent experience in connection with the construction of colliery branches in Nottinghamshire, and as Resident Engineer in charge of bridge reconstruction work. He was attached temporarily to the District Engineers' Offices, Derby North and Liverpool, 1933-35, and was transferred to the New Works Section, Chief Civil Engineer's Office, St. Pancras, in September, 1935. Mr. Best was appointed Chief Draughtsman in the District Engineer's Office, Northampton, in 1936; Assistant District Engineer, Northampton, in 1940; and Assistant District Engineer, Liverpool, in 1942. He was transferred to the Chief Civil Engineer's Department, Watford H.Q., as Acting Senior Assistant (Permanent Way), on the retirement of Mr. J. W. Melville in January, 1945.

Mr. W. E. Blakesley, Assistant, Office of Superintendent of Motive Power, Watford H.Q., L.M.S.R., who, as recorded in our November 2 issue, has been appointed District Locomotive Superintendent, Bristol, entered the service of the London & North Western Railway at Northampton in 1905. After serving his apprenticeship he worked as a fitter at Northampton, Nuneaton and Willesden, and as Fitter-in-Charge at Doncaster; in 1918 he was appointed Assistant Foreman-in-Charge of the Rhyll shed. In the following year he took charge at Oxenholme, and in 1920 was transferred to Carnforth. Five years later he became Running Shed Foreman of the Carnforth depots, and in June, 1928, was appointed District Locomotive Superintendent at Carnforth. In November, 1930, Mr. Blakesley was transferred to Preston in a similar capacity. In January, 1934, he became District Locomotive Superintendent, Bescot, which included charge of Aston and Monument Lane, Walsall and Bushbury. Mr. Blakesley was appointed District Locomotive Superintendent, Crewe, in 1935, and became Assistant, Office of Superintendent of Motive Power, Watford H.Q., in 1943.

Mr. Frederick Danby Taylor, Chief of Staff, Buenos Ayres & Pacific Railway, who, as recorded in our November 23 issue, has been appointed Assistant to the General Manager for Personnel, was born in Leeds in 1882, and went to Argentina in 1888. At the age of 13 he commenced his railway career as an apprentice in the workshops of the Buenos Ayres & Ensenada Railway (now the Quilmes line of the Buenos Ayres Great Southern Railway). In 1898, he became a messenger in the Mechanical Department of the Buenos Ayres & Pacific Railway, at Junin, and later worked as a clerk in that department. When the Traction Section of the Mechanical Department was formed at Junin, in 1906, he was promoted Clerk-in-Charge of the offices of the section. In 1911 Traction was made a separate department, with headquarters in Buenos Aires, and, with a brief interruption Mr. Taylor was Chief Clerk until 1927, when he was appointed Indoor Assistant. In 1928 he was transferred to the management as Chief of Staff of the company, and appointed a member of the Staff & Labour Advisory

Committee of the Railway Companies under National Jurisdiction; since 1936 he has been Chairman of that committee. He has been Secretary of the Committees of Chief Mechanical Engineers and Traction Superintendence since 1923.

Mr. Warren Storey, M.I.E.E., M.Inst.C.E. (Ireland), formerly Electrical & Lighting Assistant to the Chief Mechanical Engineer, Great Southern Railways (Eire), who, as recorded in our November 30 issue, has been appointed Electrical Engineer, Irish Transport Company (Coras Iompair Eireann), is a past-Chairman of the Irish Centre of the Institution of Electrical Engineers, and Past-President of the Engineering & Scientific Association, and was a member of the Diesel Engine Users Association, London, for a number of years. He has travelled extensively in Europe and Canada on business missions.

At a recent meeting of Southampton Harbour Board, Alderman T. Lewis, Deputy-Chairman since April, 1944, was elected Chairman, in succession to Mr. H. A. Short, formerly Docks & Marine Manager, Southern Railway, who resigned the Chairmanship after his appointment as Deputy Traffic Manager, Southern Railway. Mr. C. E. Cotterell, who has been a member of the Board since 1923, was elected Deputy-Chairman. Alderman Lewis, at the beginning of the meeting, extended a warm welcome to Mr. R. P. Biddle (Docks & Marine Manager, Southern Railway), who has been appointed one of that company's representatives on the Board, in succession to Mr. Short.

PRESENTATION TO MR. A. RAWORTH
On November 9, a presentation was made from his fellow officers to Mr. Alfred Raworth, who retired from the position of Chief Electrical Engineer, Southern Railway, on May 1, 1945. The presentation was made by the General Manager, Sir Eustace Missenden, and consisted of a set of golf clubs. Also present were:—

Messrs. John Elliot, Deputy General Manager; O. V. Bulleid, Chief Mechanical Engineer; O. Cromwell, Chief Officer for Labour & Establishment; C. M. Cook, Chief Electrical Engi-

neer; A. Endicott, Estate & Rating Surveyor or W. J. Sawkins, Assistant Accountant; H. L. Smedley, Solicitor; H. A. Short, Deputy Traffic Manager; W. Marsh, Assistant for General Purposes (Chief Mechanical Engineer's Department).

SOUTHERN RAILWAY APPOINTMENTS Chief Civil Engineer's Department

Mr. E. J. C. Reed, Assistant Divisional Engineer, London Bridge, to be Senior Resident Engineer (Bridges & Heavy Works), Waterloo.

Stores Department

Mr. J. W. Terry, M.C., Chief of-Purchasing Section, Stores Department Headquarters, Waterloo, to be Indoor Assistant.

Mr. E. T. Tarrant, Depot Storekeeper, Ashford, to be Outdoor Assistant.

PRESENTATION TO MR. H. E. ROBERTS

At Tonbridge, on November 30, on the retirement of Mr. H. E. Roberts, Divisional Engineer, Eastern Division, Southern Railway, Mr. V. A. M. Robertson, Chief Civil Engineer, presented him with a gold watch, subscribed to by the divisional and headquarters staff. Mr. Robertson referred to his long acquaintance with Mr. Roberts, who had held his position of Divisional Engineer on several divisions for 32 years. Tribute was also paid by other members of the engineering staff and by Mr. P. Nunn, Eastern Divisional Superintendent.

L.P.T.B. APPOINTMENTS

Mr. E. C. Ottaway, Technical Officer (Buses & Coaches), to be Works Manager (Buses & Coaches).

Mr. W. T. Blair, Body Work Engineer (Chiswick), to be Production Engineer (Buses & Coaches).

Mr. H. L. Stallan, Plant & Electrical Engineer (Buses & Coaches), to be Plant, Electrical & Progress Engineer (Buses & Coaches).

Mr. J. W. Wicks, Assistant to Technical Officer (Buses & Coaches), to be Assistant Engineer (Development—Buses & Coaches).

Mr. F. Cook, Divisional Engineer (South—Trams & Trolleybuses), to be Rolling Stock Engineer (Trams & Trolleybuses), combining the duties of Divisional Engineer (South).

Mr. T. Bilbow, Architect, is appointed an Officer of the Board.

Presentation to Mr. Alfred Raworth



A group of Southern Railway officers at the presentation to Mr. Alfred Raworth, lately Chief Electrical Engineer to the company, on November 9
Left to right: Mr. A. Endicott, Estate & Rating Surveyor; Mr. W. J. Sawkins, Assistant Accountant; Mr. C. M. Cook, Chief Electrical Engineer; Mr. H. A. Short, Deputy Traffic Manager; Sir Eustace Missenden, General Manager; Mr. John Elliot, Deputy General Manager; Mr. Alfred Raworth; Mr. H. L. Smedley, Solicitor

Questions in Parliament

Transport Nationalisation Proposals

Mr. A. C. M. Spearman (Scarborough & Whitby—C.) on November 26 asked the Minister of War Transport, in connection with the nationalisation proposals for transport, if it was intended that the assets of dock and harbour undertakings would be acquired by the State, or whether the existing ownerships were to be continued; and what were the appropriate ancillary activities he had in mind in connection with his proposals.

Mr. Alfred Barnes (Minister of War Transport): As to the first part of the question, I am unable at present to add anything to the statement recently made by Mr. Herbert Morrison. As to the second part, among the ancillary activities I have in mind as requiring examination are functions in regard to navigation and pilotage.

Mr. A. C. M. Spearman (Scarborough & Whitby—C.) on November 26 asked the Minister of War Transport, in connection with the nationalisation proposals for transport, what was to be the position of the L.P.T.B.; and if it was to be acquired by the State or remain in private ownership.

Mr. Alfred Barnes: I would remind Mr. Spearman that the L.P.T.B. is already a public authority. Whether any modifications in its statutory position will be desirable in connection with the general re-organisation of transport is a matter which, as Mr. Herbert Morrison indicated in his recent statement, is being duly considered.

Mr. A. C. M. Spearman (Scarborough & Whitby—C.) on November 26 asked the Minister of War Transport, in connection with the nationalisation proposals for transport, how he proposed to relate coastwise shipping, which would not be nationalised, to that part of inland transport which it was proposed to nationalise.

Mr. Alfred Barnes: As Mr. Herbert Morrison indicated on November 19, the relationships between coastwise shipping and inland transport are matters to which I am giving attention, but I am not now ready to make a statement.

Railway Control Agreement

Sir John Mellor (Sutton Coldfield—C.) on November 26 asked the Minister of War Transport whether he would consider increasing the rental now fixed by the Railway Control Agreement so that the railways might receive some benefit to correspond with the reduction of the excess profits tax on industry.

Mr. Alfred Barnes wrote in reply: No, Sir.

Christmas Services on the Railways

Mr. J. A. Sparkes (Acton—Lab.) on November 26 asked the Minister of War Transport what arrangements were being made by the main-line railway companies to deal with traffic passing during the Christmas period; whether sufficient accommodation would be available for the travelling public; what restrictions would be imposed on travel and the transit of goods; and whether the staff position had improved sufficiently to enable improved services to run this Christmas.

Mr. Alfred Barnes: Passenger traffic before and after Christmas is likely to be heavy and the railways will do everything in their power to deal with it by providing such additional trains as their limited resources of staff, locomotives and carriages permit. The services will be an improvement on those provided last

Christmas, but, notwithstanding this, trains are likely to be crowded. Train services on Christmas Day generally will be the same as on an ordinary Sunday and on Boxing Day as on an ordinary weekday, except that workmen's and business trains will be cancelled and there will be some augmentation of services in the afternoon and evening. The acceptance of merchandise traffic over the Christmas holiday will be, so far as practicable, in accordance with the needs of industry.

Railways Capital Expenditure

Mr. Ernest Davis (Enfield—Lab.) on November 26 asked the Minister of War Transport how much had been expended by the four main-line railway companies on railway works, extensions or improvements of a capital nature during the operation of the Railway Control Agreement.

Mr. Alfred Barnes: The amount charged to capital account by the four main-line railway companies in respect of works and equipment during the period September 1, 1939, to November 10, 1945, is approximately £18 million. In addition, about £85 million has been spent on renewal account.

Railway Warrants

Mr. E. Carson (Isle of Thanet—C.) on November 22 asked the Financial Secretary to the Treasury whether he would increase the number of free railway warrants issued to Civil Servants at present stationed far from their homes from two to four a year.

Mr. Glenvil Hall (Financial Secretary to the Treasury) in a written answer stated: It is proposed to improve the free-travel arrangements at present authorised for Civil Servants who have been transferred in the public interest and thus separated from their families. New arrangements are now under discussion with the staff side of the National Whitley Council.

Railway Travel in Paiforce Command

Major K. G. Younger (Grimsby—Lab.) on November 20 asked the Secretary of State for War whether he was satisfied that the conditions of third class railway travel in Paiforce Command were suitable for British troops proceeding on, or returning from, leave; and whether he would consider using only first or second class accommodation.

Mr. J. J. Lawson (Secretary of State for War) stated in a written answer: All available higher class stock is used for British troops, but there is not enough to meet all requirements and many men must travel in third class stock. In that event the coaches are filled to half normal capacity and civilians and non-European troops are entrained in separate coaches. Most of the third class coaches are Indian stock which is more suitable than the local third class stock.

Seats for Disabled Ex-Servicemen

Mr. E. H. Keeling (Twickenham—C.) on November 26 asked the Minister of War Transport whether he was aware that on French trains, seats were reserved for wounded ex-Servicemen; and whether, after obtaining particulars of the working of the French system, he would give priority on British railways to ex-Service holders of the silver disc.

Mr. Alfred Barnes: The reply to the first part of the question is in the affirmative. Arrangements are already in force on the British railways whereby, on the previous production of a medical certificate, seats are reserved for invalids and disabled ex-Servicemen who are unable to travel

standing. I do not feel that I should be justified in reserving accommodation for all holders of the silver badge.

Mr. Keeling: May we hope that the matter will be reconsidered when there is more room in the trains?

Mr. Barnes: Yes. I am always prepared favourably to consider increased facilities as we move away from general traffic problems.

Rail Transport for Vegetables

Mr. Henderson Stewart (East Fife—Lib. Nat.) on November 26 asked the Minister of War Transport if he was aware of the hold-up of rail transport for seed potatoes in central Scotland and the imminent danger on account of frost of the destruction of large quantities of seed ready and dressed for sending to England; and what steps he was taking in the matter.

Mr. T. Cook (Dundee—Lab.) also asked the Minister of War Transport if he was aware that the railways had been closed to the seed potato traffic to England; that these seeds had been bagged and were now in danger of going bad; and if he would reopen the railways to this traffic.

Mr. Alfred Barnes: I regret that due to congestion caused by fog and heavy traffic it was necessary temporarily to stop the acceptance of traffic, including seed potatoes, at stations in Scotland for conveyance by the L.N.E.R. route to England. Both the railway companies and my department are very conscious of the importance of ensuring that seed potatoes are moved, and the traffic receives a high priority. I am glad to say that it was possible to resume acceptance of seed potatoes on Thursday, November 22, and, providing the better weather conditions continue, I hope that regular movement will be maintained.

Mr. Cook: Will the Minister take care, when events like this occur, to put coastal shipping facilities at the disposal of the potato growers?

Mr. Barnes: Already a large consignment of these seed potatoes has been moved by coastwise shipping—quite a considerable quantity. It is impossible to deal with an emergency matter of this description by final arrangement.

Mr. S. Dye (Norfolk South West—Lab.) on November 26 asked the Minister of War Transport whether he was aware that last week the L.N.E.R. without previous notice suddenly refused to receive a considerable quantity of vegetables at its Norfolk stations, resulting in the loss of quantities of perishable vegetables; and what steps he was taking to prevent such occurrences in future.

Mr. Alfred Barnes: I am informed that last week there was a shortage of wagons at the L.N.E.R. stations in Norfolk for vegetable traffic, but I am not aware that this resulted in any loss of perishable vegetables. The importance of avoiding such loss is fully appreciated and every effort is made to provide road transport where sufficient railway wagons are not available.

Poole Level Crossings

Colonel M. J. Wheatley (Dorset Eastern—Lab.) on November 26 asked the Minister of War Transport whether, in the interest of movement of traffic, he would have the situation at the two level crossings at Poole investigated, with a view either to eliminating the crossings or to speeding up the closing and opening of the gates.

Mr. Alfred Barnes in a written answer stated: I am informed that post-war planning schemes under discussion between the Poole Corporation and the Southern Rail-

way Company include proposals for the abolition of Towngate and High Street level crossings. The present instructions for closing the gates to road traffic to allow for rail movements over the crossings provide for margins not exceeding three minutes, which are considered to be the minimum consistent with safety.

Rolling Stock in France

Major W. L. Wyatt (Birmingham, Aston—Lab.) on November 26 asked the Secretary of State for War what type of rolling stock was used for the conveyance of military personnel between Toulon and Dieppe in connection with the Medloc scheme; and how old it was.

Mr. J. J. Lawson in a written answer stated: Five of the ten train sets are of Italian origin. The other five are fresh sets from German sources. All have through corridors. The age of the rolling stock is not known, but every coach has been reconditioned and is heated and lighted.

Canals

Mr. J. A. Sparkes (Acton—Lab.) on November 26 asked the Minister of War Transport how many miles of railway-owned and non-railway-owned canals there were in Great Britain, excluding the Manchester Ship Canal; the mileage of canals used for the passage of traffic and closed to the passage of traffic, respectively; to what extent canals had been used as auxiliary means of transport during the war years; and if he would make a statement on the future of canals in post-war transport organisation.

Mr. Alfred Barnes: Excluding canals or sections of canals which have been abandoned for navigation by statutory procedure, the total mileage of the principal canals and inland navigations in Great Britain is 2,419, of which 803 miles is railway-owned and 1,616 is in other ownership. Of these waterways, 444 miles is not used for the passage of traffic. During the war much traffic was diverted to canals to relieve other forms of transport, and the average yearly tonnage carried on the principal canals and inland navigations during the war years was 11,200,000. As to the last part of the question, I would refer Mr. Sparkes to the statement made by Mr. Herbert Morrison on November 19.

Staffs

Sir Ralph Glyn (Abingdon—C.) on November 13 asked the Financial Secretary to the Treasury the number of persons who were in receipt of salaries included in Votes of Credit, 1945-46, Cmd. 6630, for the following departments, indicating which were established and which unestablished, and what had been the corresponding figure of persons employed in those departments at the end of the financial year 1944-45: the Ministry of Supply, Ministry of Aircraft Production, Ministry of Economic Warfare, Overseas Establishments, Ministry of Food, Ministry of Home Security, Ministry of Information, Postal & Telegraph Censorship, Ministry of Production, War Damage Commission, Ministry of War Transport.

Mr. Glenvil Hall: The following table shows the numbers of non-industrial staff, established and unestablished, at October 1, 1945, and April 1, 1945, respectively, for the departments listed in the question, other than the Ministry of Home Security, which had been wound up at the former date. It is not possible to extract the figures for this Ministry at April 1, 1945, separately from those for the Home Office, in view of the number of officers engaged

on work common to both Ministries. The figures for April 1, 1945, are those of staff actually in post at that date, and do not necessarily conform to those set out in Cmd. Paper 6630, which was confined to

say whether it would not be in the interests of the country to make a drastic cut of, say, 20 per cent. of the Civil Servants right away, and see what happens?

Mr. Dalton: No, sir.

Department	April 1, 1945				October 1, 1945			
	Established	Un-established whole-time	Un-established part-time	Total	Established	Un-established whole-time	Un-established part-time	Total
Ministry of Supply ...	4,902	55,168	1,362	61,432	4,703	45,247	976	50,926
Ministry of Aircraft Production ...	3,289	17,719	925	21,933	3,264	16,375	718	20,357
Ministry of Food ...	694	34,775	4,903	40,372	654	35,358	4,637	40,649
Ministry of Information ...	147	2,626	41	2,814†	135	2,113	34	2,282‡
Postal & Telegraph Censorship ...	226	9,217	79	9,522	111	1,681	11	1,803
Ministry of Production ...	107	1,072	84	(1,263)	90	918	63	1,071§
War Damage Commission ...	237	1,796	259	2,292	237	1,741	194	2,172
Ministry of War Transport ...	3,041	11,520	655	15,216	3,015	10,103	495	13,613
Ministry of Economic Warfare*								
Home ...	12	284	7	303	—	—	—	—
Overseas ...	1	5	—	6	—	—	—	—

* The Foreign Office and Department of Overseas Trade took over the majority of the staff at posts overseas on April 1, 1945. † Excluding 3,561 staff overseas. ‡ Excluding 2,800 (approximately) staff overseas.

§ Subsequently merged under Board of Trade

such particulars as could then be given consistently with public policy, and did not profess to be more than an indication of the distribution of Vote of Credit expenditure under the respective heads.

Central Statistical Office

Mr. A. C. M. Spearman (Scarborough & Whitby—C.) on November 13 asked the Chancellor of the Exchequer what was the present organisation of the Central Statistical Office.

Mr. H. Dalton (Chancellor of the Exchequer): I will, with Mr. Spearman's permission, circulate this information in the Official Report.

The following is the information:—

CENTRAL STATISTICAL OFFICE

Statisticians		
Director ...	(1) Mr. H. Campion	£1,450 (fixed)
Chief Assistants (£800-£1,000)	(4) Mr. J. Stafford ...	£1,000
	Mr. R. F. Fowler ...	£900
	Mr. R. H. Coarse ...	£850
	Mr. W. C. Taplin ...	£850
Assistants ... (£600-£800, men)	(6) Mr. B. N. Davies ...	£700
	Mr. E. F. Jackson ...	£700
	Mr. J. Cohen ...	£700
	Mr. C. R. Jones ...	£650
	Mr. R. E. Beales ...	£650
	Miss J. G. Marley ...	£530
Junior Assistants (£260-£450, men)	(7) Mr. L. T. Clarke ...	£450 + £50 allowance
	Mr. T. Eastwood ...	£310
	Mr. C. J. Martin ...	£450 + £100 allowance
	Mrs. E. J. Donovan ...	£400
	Miss M. O. Hardy ...	£310
	Miss P. M. Nye ...	£385
	Miss D. R. Shanahan ...	£425

Executive and Subordinate Staff

Staff Officer ...	(1)	£550-£650
Chartists (women) ...	(2)	£200-£360
Clerical Officers (women) ...	(10)	£85-£280
Temporary Clerks (women)—		
(Grade I) ...	(1)	62s. 6d.-76s. 6d.
(Grade II) ...	(2)	33s.-66s. 6d.
(Grade III) ...	(1)	16s.-59s.
Superintendent of Typists ...	(1)	£85-£280
Temporary Shorthand Typist—		
Grade I ...	(2)	40s.-64s. 6d.
Established Typist ...	(1)	31s.-60s.
Temporary Typists ...	(6)	25s.-57s. 6d.
Established Messenger ...	(1)	£160-£205
Unestablished Messengers ...	(4)	56s. 6d.-58s. 6d.

Civil Servants (Statistics)

Sir Waldron Smithers (Orpington—C.) on November 15 asked the Chancellor of the Exchequer the number of Civil Servants before the war in 1939, the peak number during the war, and the number at the latest available date.

Mr. H. Dalton: The number of whole-time non-industrial Civil Servants was 374,301 on April 1, 1939, and 655,500 on October 1, 1945. The peak number was 692,578 on July 1, 1943.

Sir Waldron Smithers: Will Mr. Dalton

Parcel Delays

Mr. Henderson Stewart (East Fife—Lib. Nat.) on November 22 asked the Assistant Postmaster-General if he was aware of the delays now experienced in the delivery of parcels in this country; that some parcels took six days to come less than 100 miles; that scarcely shorter periods were common; and that, in the case of parcels containing foodstuffs, such as fish, wastage was thereby caused; and what steps he was taking to improve the work of his department in that direction.

Mr. W. A. Burke (Assistant Postmaster-General) stated in a written answer: I am aware of the delays in the parcel post and the Post Office is now examining the matter in consultation with the railway companies. The rate of improvement must necessarily depend on the staffing position and the transport services. Because of the possibility of delay, the public has been advised not to send foodstuffs and other perishable articles by post.

PIPE FITTINGS FOR STEAM, WATER AND GAS.—The British Standards Institution has issued a British Standard relating to malleable cast-iron and cast-copper alloy pipe fittings for steam, water and gas installations. This specification is comparable in its scope to B.S. 143, but provides for fittings which have B.S.P. taper male threads and parallel female threads. Copies of this British Standard (No. 1256) may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1, price 3s. 6d., post free.

ASSAM RAILWAYS & TRADING CO., LTD.

—The audited accounts of this railway for the year ended March 31, 1944, show that the rental (£120,000) received from the Government of India and the working profits of the trading departments of the company together with dividends and interest amounted to £207,236 against £234,373 for the previous year's working. After making provision for railway renewals and depreciation, provident funds, directors' fees, and exchange, there remains £141,233 (£171,244). Adding the balance, £49,716, brought forward from last year's accounts, there is £190,949 available for distribution. Of this sum after payment of debenture interest and preference dividends, and making provision for taxation, £53,132 against £49,716 last year is to be carried forward.

Egyptian Delta Light Railways

The Hon. W. B. L. Barrington (the Chairman), presiding at the annual ordinary general meeting of the Egyptian Delta Light Railways, Limited, held at Gresham House, Old Broad Street, E.C., on November 21, first of all referred to the proposed transfer of the control of the company to Egypt. He had referred last year to representations received from a substantial group of Egyptian shareholders urging such transfer of control to avoid their having to pay British income-tax in addition to Egyptian income-tax.

Recently, the Defence of the Realm (Finance) Regulation No. 6 governing the position had been revoked and the matter now rested entirely in the hands of the shareholders. In these circumstances, the directors felt that they would not be justified in opposing a further demand for such transfer by the Egyptian group, representing upwards of 75 per cent. of the share capital. After full deliberation and discussion with nominated representatives of this group, it was decided that resolutions should be submitted to an extraordinary general meeting to be held immediately after this meeting. These resolutions provided for the necessary alterations in the company's articles of association to enable the control and management to be carried to Egypt where all future meetings will be held. They also provided for the retirement and compensation of the present board and the appointment of a new board resident in Egypt. If these resolutions are duly adopted by the shareholders the control of the company would pass to Egypt as from today.

He put on record his conviction that the proposed transfer might never have been mooted had the problem of double taxation—upon which many influential bodies have constantly made representations—been faced and dealt with promptly by the authorities. A transfer such as this was particularly unfortunate, as this country stood to lose not only income-tax but probably also substantial orders at a time when we needed them so greatly to improve our export trade. Other English companies carrying on business abroad might follow their example.

The railway was built by British capital

and British enterprise nearly 50 years ago, and it has undoubtedly done much for the development of Egypt. The number of passengers carried yearly now exceeded the total population of the country, and the railways formed an integral part of the life of the fellahen in the agricultural provinces. The retiring directors were pleased to feel that at the time of handing over their trust the finances of the company will be in better shape than has ever before been the case. The balance-sheet was particularly clean, and the cash resources should be ample for all requirements, including the renewals and replacements which are needed as soon as materials are again available.

After referring in some detail to the accounts and stating that the results of the year's working showed a profit of £75,956, against £59,296, which enabled the board again to recommend the payment of the full 5½ per cent. dividend on the Preference share capital, less British income-tax at 10s. in the £, the report and accounts were adopted. The resolutions authorising the transfer of the control of the company to Egypt, submitted to the extraordinary general meeting, were agreed to.

Machine Tool Apprenticeship Scheme

During the last decade the engineering industry has suffered a shortage of skilled men due partly to the reluctance of new entrants to accept any indentured apprenticeship training, and partly to the very small differential in wages paid to the skilled as compared with the unskilled worker. In no branch of engineering was this lack of skilled men felt so much as in the machine tool industry, which has been rightly described as a key industry for it is upon it that all others depend for a means to produce their particular manufactures. It is an industry which calls for a higher degree of skill than is necessary in the manufacture of many other commodities because of the extreme accuracy required, and the fact that parts are produced in comparatively small quantities by

the skill of the individual rather than by use of automatic machines. Therefore the machine tool industry makes a stronger appeal to the intelligent and industrious boy and is able to satisfy the aspiration of the more ambitious.

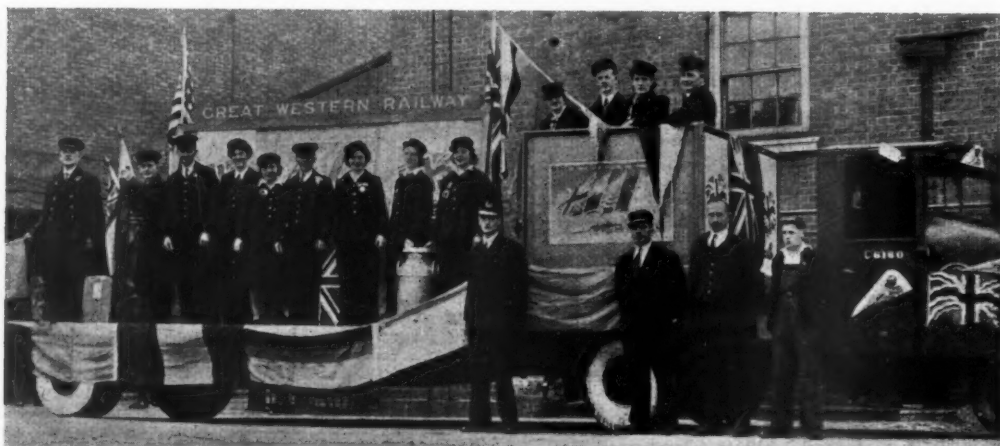
To build up a strong force of skilled engineers for the future, the B.S.A. group of companies has established an apprenticeship scheme which makes available to all boys interested in engineering, and in particular, those boys entering the company's employment, regardless of their financial circumstances, the opportunity to obtain a sound technical education in engineering and a first-class practical training in all branches of machine tool design and manufacture. Many advantages and privileges are granted to registered apprentices, and the B.S.A. tool group apprenticeship scheme offers a splendid opportunity to parents whose sons are interested in an engineering career. Many lucrative positions occur in the engineering industry and are open to the successful apprentice, such as:—

Mechanical and electrical engineers,
Planning, production, and plant engineers,
Designers,
Technical salesmen,
Metallurgists,

and numerous grades of skilled craftsmen and toolmakers. The B.S.A. tool group encourage and promote, as far as possible, their own apprentices, and many of the firm's executive staff are ex-apprentices. The scheme is open to applicants between the ages of 14 and 18 who have completed a course at a secondary, technical, or modern school. The indenture is for 7 years and the company undertakes to give the apprentice a thorough training in the design and manufacture of machine tools and small tools. An engineering scholarship tenable at the University of Birmingham is also open to the apprentices. Full details of the scheme can be obtained from the Apprentice Supervisor, B.S.A. Tools Limited, Mackadown Lane, Marston Green, Birmingham.

NORWEGIAN RAILWAY TRAVEL.—We understand that rationing of passenger railway travel in Norway was discontinued on October 1, as a result of improved transport facilities having become available.

G.W.R. in Victory Procession in Newport Carnival



A prize-winning G.W.R. 6-ton Scammell lorry which took part in a recent victory carnival at Newport

Notes and News

South African Railway Earnings.—Railway earnings in South Africa for the period October 7 to November 10 amounted to £5,203,268, compared with £4,981,014 in the previous corresponding period.

Agreed Charges.—Applications have been made to the Railway Rates Tribunal for the approval of 41 further agreed charges under the provisions of Section 37 of the Road & Rail Traffic Act, 1933. Notices of objection should be filed by December 11.

Traffic Manager Required.—Thomas Owen & Co. Ltd., Ely Paper Works, Cardiff, requires a competent traffic manager, used to handling in and out rail and road traffic. See Official Notices on page 603.

District Mechanical Engineer (Workshops) Required.—A district mechanical engineer (workshops) is required by the Iraqi State Railways for three years in the first instance. For full particulars see Official Notices on page 603.

Rhodesia Railways Earnings.—The approximate gross revenue of the Rhodesia Railways Limited for the month of September, 1945, was £517,095 and for the 12 months ended September 30, 1945, was £6,069,664. These results compare with £516,464 and £6,439,433 respectively for the corresponding periods of 1944.

Vacancies in Brazil.—An important British-owned railway in Brazil requires two locomotive engineers and one carriage and wagon engineer as district assistants, and also one running shed inspector with practical knowledge of repair work and foot-plate experience. For full particulars of these appointments see Official Notices on page 603.

L.N.E.R. Debenture Interest.—For the purpose of preparing the warrants for interest on the company's 3 per cent. and 4 per cent. debenture stocks and 4½ per cent. sinking fund debenture stock for the half-year ending December 31, 1945, the balances will be struck as at the close of business on December 11. See Official Notices on page 603.

Signal and Telegraph Inspectors Required for the Sudan.—Two signal and telegraph inspectors are required by the Sudan Railways. Candidates should have had workshop and outdoor experience in the installation and maintenance of mechanical signalling, telegraph, tablet and token and telephone instruments. For full details of these appointments see Official Notices on page 603.

The Egyptian Delta Light Railways Limited.—The directors report that for the year ended March 31, 1945, receipts from passenger traffic amounted to £440,614, an increase of £58,628 compared with the previous year. The receipts from goods traffic amounted to £259,473, an increase of £22,097 over the previous year, 479,980 more passengers and 95,354 tons less goods were carried during the year. Working expenses at £454,683, including provision for deferred renewals, were £22,097 higher than last year. The ratio of expenses to gross earnings was 64.13 per cent. The balance carried to net revenue account amounts to £254,340, which, with interest, etc., amounting to £11,828, gives a total of £266,168. After providing for fixed charges and making provision for taxation, a balance of £75,956 remains to which must be added the balance of £31,825 brought forward from 1944, making £107,781. A dividend

of 5½ per cent., less British tax, on the preference shares will absorb £57,243 and leave £50,538 to be carried forward.

The Permanent Way Institution.—The Croydon Section of the Permanent Way Institution will hold a meeting on December 12, at Ruskin House (Room 13), Wellesley Road, West Croydon, at 7 p.m., when a paper, "Ballast Train Working—New Cross Gate Depot," will be read by Mr. F. W. Edwards.

Butler Machine Tool Co. Ltd.—A dividend on the 5 per cent. cumulative preference shares of the Butler Machine Tool Co. Ltd. for the six months ending December 31, 1945, less tax, and a dividend of 12½ per cent., less tax, for the year ended September 30, 1945, will be paid on December 31, 1945.

Christmas Travel by L.M.S.R. to Ireland.—The L.M.S.R. states that from mid-December there will be an additional sailing daily (including Sundays) from Holyhead to Kingstown. Additional sailings will also be provided from Kingstown to Holyhead for return travel after Christmas. Commencing Tuesday, December 18, and until further notice, a nightly passenger service (Sundays excepted) will be operated between Liverpool and Belfast in both directions. The present service consists of three sailings in each direction weekly.

Mexican Railways.—The directors of the InterOceanic Railway of Mexico (Acapulco to Vera Cruz) Limited, Mexican Eastern Railway Co. Ltd., and Mexican Southern Railway Limited announce that the purchase money for the sale of the railways to the Mexican Government has been received by the companies in London and steps are being taken to place the three companies in liquidation with a view to expediting the distribution thereof to the parties entitled under the scheme of arrangement already sanctioned by the High Court.

Road Transport Leaders Meet Minister.—On November 26, the Minister of War Transport met representatives of the Road Haulage Industry led by Mr. H. T. Duffield, Chairman of the Road Haulage Association. There was a short discussion in the course of which the deputation asked for a definition of long-distance transport, and other points affecting the scope of the Government's nationalisation proposals. The Minister indicated that he would be prepared to enter on discussion of these and other practical matters if, after the meeting of the General National Council of the Association, it was so desired.

Railway Convalescent Homes.—The income and expenditure account of the Railway Convalescent Homes for the year ended December 31, 1944, shows an income of £67,006 and expenditure of £42,343, leaving a balance of £24,663. The income was made up of £42,650 from railway staff collections; £18,741 from donations from the public, etc.; £4,075 from investments (including income tax recoverable); £222 from hospital and War Department services; and £1,318 from sundries. Expenditure on maintenance was £35,651, and on administration, £6,692. The number of patients who used the homes in 1944 was 4,377, which included 3,098 men, 1,209 women, and 70 babies.

Consumption of Non-Ferrous Metals.—Detailed figures of the consumption in the United Kingdom during the third quarter of 1945 of the metals within the scope of the Directorate of Non-Ferrous Metals have been issued. These metals are copper, zinc, lead, tin, nickel, cadmium, antimony, cobalt, and manganese. The table below shows

the total figures of consumption of virgin metal only for 1944 and the first three quarters of 1945:—

	Year 1944	First Quarter 1945	Second Quarter 1945	Third Quarter 1945
	Tons	Tons	Tons	Tons
Copper ...	348,139	81,103	72,378	65,244
Zinc ...	184,241	45,411	43,109	40,290
Lead ...	205,385	51,517	55,265	55,274
Tin ...	18,435	3,949	4,067	3,959
Nickel ...	12,420	2,431	2,214	1,966
Cadmium ...	377	114	121	101
Antimony ...	4,772	1,265	1,348	1,284
Cobalt ...	787	195	168	158
Manganese metal ...	861	144	134	107

The decline in consumption of almost every metal in the third quarter of 1945 reflected the reduced demand for munitions in the later stages of the German and Japanese wars.

Henry Spurrier Memorial Lecture.—The first Henry Spurrier Memorial Lecture will be delivered at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, on December 10, at 5.30 p.m. The lecturer will be Mr. E. S. Shrapnell-Smith, C.B.E., M.Inst.T., who will take as his subject "Five Decades of Commercial Road Transport with Inferences about the Future." Mr. Shrapnell-Smith has accepted invitations to repeat the lecture before members of the Institute of Transport at the following centres: December 21, Nottingham; January 11, Bristol; January 22, Birmingham; January 23, Manchester; January 24, Leeds; January 25, Newcastle; March (date not fixed), Edinburgh.

Road Haulage Wages.—At its meeting on November 21, the Road Haulage Central Wages Board decided to give notice of its intention to submit to the Minister of Labour & National Service proposals for the amendment in certain respects of the existing Road Haulage Wages Orders governing the statutory remuneration of road haulage workers falling within the scope of the board. The full proposals of the board, which include proposals for increases in the statutory remuneration and in the allowance for night work and a proposal, to take effect on July 1, 1946, for the re-grading to grade 2 of all grade 3 areas, will be transmitted in due course to the Road Haulage Area Wages Boards for report and to all employers in the industry, and a period of 21 days will be allowed for the receipt of objections to the proposals. The reports of the Area Boards and any objections lodged to the proposals will be considered by the Central Board at a further meeting at which the question of submitting the proposals to the Minister of Labour & National Service for confirmation will also be considered.

United Railways of Havana.—The net surplus on working account of £69,171 for 1944-45 against £392,052 for 1943-44 is announced by the United Railways of the Havana and Regla Warehouses. After charging a full year's interest on debentures and debenture stocks, accrued interest on unpaid interest, etc., totalling £1,054,684 and a transfer of £50,000 to renewals, there is a debit balance of £1,029,428 against £910,217. This brings the accumulated debit to £15,091,632 against £14,062,204 brought in. Under the company's scheme, which awaits Court sanction, the existing six classes of securities are replaced by two kinds of registered income debenture stock. Issued share capital is £10,668,255. It was announced recently that, to compensate for an all-round increase in wages decreed by the Cuban Government, the latter had authorised increases in certain freight and passenger rates as from November 17. Mr. A. G. Hunt, the Chairman & Managing

Director of the company, stated in September that there were two wages increases imposed by Cuban Government Decree during 1944-45 which were estimated to cost the company nearly £250,000 a year.

G.W.R. Safety Measures for Foggy Weather.—The statement circulated and published in our issue of November 9 that the G.W.R. has spent over £3,000,000 on its automatic train control system was unfortunately erroneous, as we have since learned that the correct figure is in the neighbourhood of £300,000.

Midland Railway Company of Western Australia.—In view of the serious decrease in profits, the directors have decided that it would not be advisable to make any further payment of interest on the second mortgage cumulative income debenture stock in respect of the year ended June 30, 1945. The payment of 2 per cent. on July 1, 1945, is therefore the final for that year. Interest unpaid in respect of the year ended June 30, 1945, to the extent of 2 per cent. is cumulative.

Iron and Steel Production.—The figures below indicate pig-iron and steel production in 1945, up to and including October:—

	Pig-iron (tons)		Steel ingots and castings (tons)	
	Weekly average	Annual rate	Weekly average	Annual rate
1st half, 1945	133,900	6,963,000	231,600	12,043,000
July...	134,800	7,010,000	213,800	11,118,000
August...	125,200	6,512,000	186,100	9,676,000
September...	139,500	7,255,000	240,700	12,517,000
October...	146,100	7,598,000	243,100	12,640,000

Barsi Light Railway.—The report of this railway for the year ended March 31 last shows a total operating revenue of Rs. 35,97,715, compared with Rs. 35,36,570, a decrease of Rs. 61,145 for the year. Expenditure for the past year amounted to Rs. 17,25,594 against Rs. 14,48,199 for the previous year, an increase of Rs. 2,77,395, which was more than offset by lower payments in respect of Indian income and super taxes. Net revenue in sterling totalled £125,031, out of which the 6½ per cent. dividend on the preference capital was paid and a dividend of 4½ per cent. on the ordinary share capital was declared. £14,287 is carried forward compared with £14,311 last year.

British Standard Specification for Concrete Railway Sleepers.—British Standard Specification 986 for Concrete Railway Sleepers has been revised to include sleepers for primary, secondary and tertiary tracks. The previous issue of the specification covered only sleepers for sidings. It is stated that this new data may need later revision in the light of practical experience and in relation to higher running speed, but is included on the basis of the information now available to give guidance where it is found necessary to use concrete sleepers for tracks other than those considered in the earlier specification. As before, the specification covers the materials, design, pre-stressed sleepers and fastenings. Appendices give the methods of making the cubes for tests, and of carrying out the check tests, and details of the fastenings. Copies of the specification (B.S. No. 986) may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1, price 2s.

Philippine Railways.—We understand that the properties of the Manila Railroad Company were returned to the company by the U.S. Army on October 1. The

company hopes that all the rolling stock taken to the Philippines by the U.S. Army will be left for civilian use. In such event there will be no pressing need for locomotives or goods rolling stock for the northern lines, but passenger carriages will need to be ordered. According to latest reports, the lines south of Manila have not been opened for traffic yet, and for these lines all classes of rolling stock are lacking.

Home Railway Dividend Dates.—According to present arrangements, the meetings of the boards of the home railway companies to consider the results for the year 1945, will take place as follows: L.M.S.R. on February 8; G.W.R. on February 15; L.N.E.R. and Southern Railway on February 22.

Manila Railway (1906).—The report for the year to June 30 last states that owing to enemy occupation of the Philippine Islands no income has been received during the year from the Manila Railway Company. Under the terms of the scheme of arrangement sanctioned by debenture-holders on July 27, 1943, payment of interest on the "A" and "B" debentures has been postponed until after January 14, 1946. After allowing for the interest accrued on the debentures and stock, amounting to £69,711, the adverse balance carried forward is £242,571.

Dutch Guiana Railway Closure.—The Public Works Department of Surinam, or Dutch Guiana, announced that the train which left Paramaribo on July 10 last would be the last to run to the end of the line at Dam until further notice. The new terminus is at Kabel North Station, and the section closed is some 40 km. (25 miles) in length. It is reported that this section had shown a deficit of 15,000 florins for several years past. There is very little activity in the gold fields served by this section of the line, and the few remaining miners are able to reach the places by water, although the Sara Creek between Kabel Station and Dam is difficult and dangerous because of a large number of falls and rapids.

Inland Waterway Carriers' Award.—The council of the Institute of Transport has accepted an offer of the National Association of Inland Waterway Carriers to make available yearly an award for a paper of merit on a subject connected with inland-waterway traffic. The particulars of the Inland Waterway Carriers' Award are: £10 offered yearly for a paper of merit by a member or non-member of the Institute employed in the carrying and distribution of inland-waterway traffic, on subjects dealing with one or more of the commercial, technical, or operating aspects of the industry.

The Aluminium Development Association.—The Aluminium Development Association has been formed to provide a central body of design and development technicians with the primary object of pioneering aluminium prototypes and evolving new uses and processes for the metal. The President of the Association is Mr. Geoffrey Cunliffe, and the Director General is Air Commodore W. Helmore. Special attention is to be given to the use of aluminium and its alloys for transport purposes, because it is held that their light weight and high strength enable frictional load and shock to be reduced. The headquarters of the Aluminium Development Association is at 67, Brook Street, London, S.W.1.

Laminated Springs: Letters Patent.—Notice is given in *The London Gazette* of November 16, in the matter of letters patent granted to Charles Stirling and The United

Steel Companies Limited, bearing date July 9, 1928, and numbered 320,346, for "Improvements in and relating to Laminated Springs," that on December 18, 1945, an originating summons issued out of the High Court of Justice (Chancery Division) on behalf of the United Steel Companies Limited, asking that the term of the said letters patent may be extended for three years or for such other term as the Court shall think fit, will come before Mr. Justice Uthwatt for directions as to the hearing. Any person desirous of being heard in

British and Irish Railway Stocks and Shares

Stocks	Highest 1944	Lowest 1944	Prices	
			Dec. 4, 1945	Rise/ Fall
G.W.R.				
Cons. Ord.	62½	55	55	—
5% Con. Pref.	122½	114½	105½	— ½
5% Red. Pref. (1950) ..	110½	104	103	—
5% Rt. Charge	135½	128	122½	—
5% Cons. Guar.	134½	125	118½	—
4% Deb.	118½	112½	104½	— 2½
4½% Deb.	118½	114	110½	—
4% Deb.	124½	119½	115	— 2
5% Deb.	137	129½	125	— 1
2½% Deb.	77	73½	81½	—
L.M.S.R.				
Ord.	34½	27½	27	—
4% Pref. (1923)	64½	55	57	—
4% Pref.	81	72½	77	— ½
5% Red. Pref. (1955) ..	105½	102	101½	—
4% Guar.	107½	99½	100	—
4% Deb.	111½	104	103	— ½
5% Red. Deb. (1952) ..	111	108	105½	—
L.N.E.R.				
5% Pref. Ord.	10½	7½	6½	—
Def. Ord.	5½	3½	3½	—
4% First Pref.	68½	55½	56	— ½
4% Second Pref.	35½	28½	27½	—
5% Red. Pref. (1955) ..	101	97½	98	—
4% First Guar.	101½	96½	99	—
4% Second Guar.	95½	88½	93	—
3% Deb.	88½	80½	91	—
4% Deb.	101½	103½	102½	—
5% Red. Deb. (1947) ..	105½	101½	101	—
4½% Sinking Fund	107	104½	104½	—
Red. Deb.	107	104½	104½	—
SOUTHERN				
Pref. Ord.	80½	71½	73½	—
Def. Ord.	26½	23	23	—
5% Pref.	122	113½	104½	— 1
5% Red. Pref. (1964) ..	117½	112½	107½	—
5% Guar. Pref.	134	125½	118½	— 1
5% Red. Guar. Pref. (1957) ..	115½	112½	108½	—
4% Deb.	118	110	104½	— 2
4% Deb.	135½	127	125	—
4% Red. Deb. (1962) ..	111½	107½	106½	—
67) ...	111½	107½	106½	—
4% Red. Deb. (1970-80) ...	112	108½	107½	—
FORTH BRIDGE				
4% Deb.	107	103	104	—
4% Guar.	106½	102	103	—
L.P.T.B.				
4½ "A"	125	119	120½xd	—
5% "A"	133½	128	130½xd	—
3% Guar. (1967-72) ..	99½	98	98½xd	—
5% "B"	124½	118½	119½xd	—
5% "C"	72½	64½	61	— 1
MERSEY				
Ord.	35½	33	32	—
3% Perp. Pref.	72	66	69	—
4% Perp. Deb.	105	103	104	—
3% Perp. Deb.	85½	79½	80	—
IRELAND*				
BELFAST & C.D.				
Ord.	9	6	7½	—
G. NORTHERN				
Ord.	33½	19	32	— 1
Pref.	49	37	50½	— ½
Guar.	70	57½	81	—
Deb.	90½	81½	96½	— 1
IRISH TRANSPORT				
Common	—	—	79½	—
3% Deb.	—	—	101	—

* Latest available quotation

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 30 inclusive unless he is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment exempted from the provisions of that Order.

THE Proprietor of patent applications relating to Improvements in or relating to Railway etc., Sleeping Carriages, Cabins and Compartments, desires to enter into negotiations for disposal of the Development and Manufacturing rights.—Box 3011, The Railway Gazette, 33, Tothill Street, Westminster, London, S.W.1.

THOMAS OWEN & CO., LTD., Ely Paper Works, Cardiff, S. Wales, require the services of a competent Traffic Manager, used to handling in and out Rail and Road Traffic. Applicants for this appointment should state experience, age, salary required and when free. Addressing letters to the Secretary, Box H.J., c/o Browns, 37, Tothill Street, S.W.1.

DISTRICT MECHANICAL ENGINEER (WORKSHOPS) required by the Iraqi State Railways for 3 years in the first instance. Salary up to Iraq dinars 90 a month according to qualifications and experience, plus high cost of living allowance I.D. 24 a month (I.D. 1 = £1). Free passages. The post is not pensionable but there is a Provident Fund. Qualifications: A.M.I.Mech.E. or hold a degree in Engineering, has served a pupillage or apprenticeship in the works of a British Railway or firm of locomotive builders and subsequently had experience in the manufacture and repair of locomotives. A knowledge of diesel locomotives is desirable.

Write quoting C.2429A to Ministry of Labour and National Service, Appointments Department, Technical and Scientific Register, Room 670, York House, Kingsway, London, W.C.2, for application form, which must be returned completed by 22nd December, 1945.

opposition must, at least eleven days before that date, lodge notice of opposition at the Royal Courts of Justice, London, and serve a copy thereof on Johnson, Meredith, Hardy & Company, solicitors, and on the solicitor to the Board of Trade.

G.W.R. and Press Photographers.—As from December 1, accredited press photographers, on presentation of their official police pass or proof of their identity, are permitted to operate on any part of the G.W.R. premises to which the public normally has access. They are requested to report, whenever possible, to the station-master or his representative before commencing operations. In all other cases involving access to reserved or prohibited areas, a special permit will be necessary. Application for these permits should be made to the Press Officer, Paddington Station, London, W.2.

Southern Railway Tomato Traffic.—The Southern Railway in co-operation with the Tomato Primary Distributive Association transported during the five months ended October 27 last, 1,330,765 packages of tomatoes, as compared with 1,173,322 in 1944. On June 25 the peak day for glass-house crop, 31,927 packages were conveyed, and the total for the peak week was 90,897 packages, an increase of 29,000 over the peak week of 1944. The peak day for outdoor crop was September 21, when 28,714 packages were loaded, and in the peak week 123,950 packages against 82,310 packages in 1944, were despatched. Growers outside the West Sussex area forwarded 137,887 packages by ordinary passenger train to London and other destinations.

New British Air Services.—Railway Air Services and West Coast Air Services opened two new air services on December 3. A London-Dublin direct service leaves London, Croydon, at 9.15 a.m. daily, except Sundays, and returns from Dublin Airport at 2 p.m. (Irish time). The flying time is 2½ hr. in each direction. A London-Belfast direct service leaves London, Croydon, at 10.30 a.m., arriving at Belfast Harbour Airport at 12.50 p.m., and leaves Belfast Harbour Airport at 10.20 a.m., arriving at Croydon at 12.40 p.m. The flying time is 2 hr. 20 min. This service

OVERSEAS EMPLOYMENT: SUDAN RAILWAYS require two SIGNAL AND TELEGRAPH INSPECTORS for service in the Sudan. Age 25-35 years. Candidates should have had workshop and outdoor experience in the installation and maintenance of mechanical signalling, telegraph, tablet and token and telephone instruments (including train control apparatus), and be able to prepare signal interlocking diagrams and charts. Starting rate of pay in the following scale according to age and qualifications:—£E. 252-276-300-324-360-396-432-480-540-600-660-720. (£E.1 = £1. 0s. 6d.) Increases are biennial up to £E.660 and thereafter triennial. Successful candidates will be appointed on Probationary Contract for two years with a view to permanent pensionable service, or alternatively on Short Term Contract for two years without post-service benefits. In the latter case the rate of pay would be about 25 per cent. higher than shown above. Free passage on appointment. Strict medical examination. At present there is no income tax in the Sudan. Separation of Special War Allowance payable in accordance with regulations when eligible.

Written applications (no interviews), giving the following essential details: (1) Full name, (2) Date of birth, (3) National Service Registration number and Local Office shown on address side of Registration Card, N.S.2, (4) Medical grade if known, (5) If discharged from the Forces, particulars of Service number, rank, unit, and reasons for discharge, (6) Qualifications and experience, (7) Name and address of present employers, (8) Details of present work, should be sent to The Secretary, Overseas Manpower Department (Ref. 857), Ministry of Labour and National Service, Norfolk House, St. James's Square, London, S.W.1. Applications cannot be acknowledged.

will be additional to the existing London-Liverpool-Belfast service operated by Railway Air Services, taking 3½ hr. The fares on the London-Dublin service are £6 10s. single and £11 15s. return. The London-Belfast fares are £8 single and £13 return.

Contracts and Tenders

Mr. Denis Hays, who has just left the army with the rank of Lt.-Colonel, has been appointed Sales Manager of the Transport Section at the Walton factory of the Dunlop Rubber Co. Ltd., now being equipped to make Dunlopillo cushioning.

The following appointments have been made by John I. Thornycrofts & Co. Ltd. in connection with its post-war sales organisation: Mr. R. Thornycroft, General Manager (Sales); Mr. G. S. W. Hulsey, Vehicle Department Sales Organiser; Mr. E. G. Dalton and Mr. J. Janes, Senior Metropolitan Area Sales Representatives; Mr. C. F. Gifford, Mr. H. R. Griffin and Mr. A. G. Probert, Metropolitan Area Sales Representatives.

A. C. Wickman Limited, Coventry, announces that its London office address for home sales only, under the control of Mr. J. M. Morris, now is: 38-39, Stratton Street, Piccadilly, W.1. The telephone number is Grosvenor 2726, and the telegraphic address, Autosella Piccy. The company announces also that a department has been inaugurated for the sale of surplus and used machine tools, and will operate from the above address under the direction of Mr. T. A. Boost, late of the Machine Tool Control. The Export Sales Department continues to operate from 10, Princes Street, Westminster, S.W.1, under the control of Mr. W. D. Colin York.

Below is a list of orders placed recently by the Egyptian State Railways:—

C. C. Wakefield & Co. Ltd.: Locomotive spare parts.

Standard Telephones & Cables Limited: Hand tools for implements.

Skefko Ball Bearings Co. Ltd.: Ball bearings.

Hoffmann Manufacturing Co. Ltd.: Ball bearings.

BRAZIL.—Required by important British-owned Railway: 2 Locomotive Engineers and 1 Carriage and Wagon Engineer as District Assistants, with practical workshop and drawing office experience, also 1 Running Shed Inspector with practical knowledge of repair work and footplate experience. Single men preferred. Commencing salary, in each case, £600-£700 per annum, according to qualifications. —Write, giving full particulars of past experience, to Box 2911, The Railway Gazette, 33, Tothill Street, London, S.W.1.

London and North Eastern Railway Company

NOTICE is hereby given that, for the purpose of preparing the warrants for interest on the Company's 3 per cent. and 4 per cent. Debenture Stocks and 4½ per cent. Sinking Fund Debenture Stock for the half year 31st December, 1945, the balances will be struck as at the close of business on 11th December, and interest will be payable only to those Stockholders whose names are registered on that date. Transfers of the above-mentioned Stocks should, therefore, be lodged with the Registrar of the Company, at Hamilton Buildings, Liverpool Street Station, London, E.C.2, before 5.0 p.m. on 11th December.

By Order.

W. H. JOHNSON,
Secretary of the Company.

Maylebone Station,
London, N.W.1.
1st December, 1945.

Consolidated Pneumatic Tool Co. Ltd.: Electric drilling and tapping machine.

J. B. Corrie & Co. Ltd.: Way gear machine. George Salter & Co. Ltd.: Weighing machine.

Thos. Firth & John Brown Limited: Axles for heavy bogie carriages.

West Bromwich Spring Co. Ltd.: Helical steel springs.

Rivet, Bolt & Nut Co. Ltd.: Locomotive spares.

Steel Peech & Tozer Branch of the United Steel Cos. Ltd.: Tyres.

Superheater Co. Ltd.: Valve for superheater header.

Howell & Co. Ltd.: Steel pipes.

John Spencer & Co., (1928) Ltd.: Volute springs.

Imperial Chemical Industries Limited: Copper firebox tube plates.

Bunard & Co. Tools Ltd.: Mild steel section.

Thomas Bolton & Sons Ltd.: Copper wire.

J. Stone & Co. Ltd.: Copper wire.

General Electric Co. Ltd.: Copper wire.

Gresham & Craven Limited: Cones.

Automatic Telephone & Electric Co. Ltd.: Wiper assemblies, etc.

Alfred Herbert Limited: Screwing and cutting tools.

British Thomson-Houston Co. Ltd.: Electrical materials.

Crompton Parkinson Limited: Spares for extension of Beri Suez Power equipment.

Metropolitan-Cammell Carriage & Wagon Co. Ltd.: Steel plates.

George Spencer Moulton & Co. Ltd.: India Rubber springs.

W. T. Henley's Telegraph Works Co. Ltd.: Copper cable and wire.

Forthcoming Meetings

December 13 (Thu.).—The Southern Railway Lecture & Debating Society, Chapter House, St. Thomas' Street, London Bridge, S.E.1. 5.45 p.m. "D-Day at Southampton Docks," by Mr. H. A. Short, M.C., M.Inst.T., Deputy Traffic Manager (until recently Docks & Marine Manager), Southern Railway.

December 15 (Sat.).—The Permanent Way Institution, 39, Victoria Street, Westminster, S.W.1. 5.45 p.m. "The Shape of Things to Come," by Mr. C. R. Rattray, B.Sc., A.M.Inst.C.E.

Railway Stock Market

Reactionary conditions have ruled in stock markets, where earlier in the week political uncertainties dominated sentiment despite hopeful views as to the outcome of the Anglo-U.S. loan talks. British Funds remained active on the Government's latest cheaper money move, but long-dated stocks attracted profit-taking, although the prevailing view is that the upward trend in gilt-edged is likely to be resumed after December 15, when the "tap" issues are to be withdrawn. Industrials recorded a general decline; Imperial Chemical receded to 39s. 9d., Dunlop Rubber to 52s., Courtaulds to 55s. and Distillers to 117s. Nevertheless, although in some directions there was a fair amount of profit-taking after recent gains, selling has not been pronounced. In fact, the lower prices were attributed in a large measure to falling off in demand, a waiting attitude arising from political uncertainties. There is a disposition to assume that the near-term outlook for markets will turn in a large measure on the trend in British Funds, which may be determined by the basis of the U.S. loan.

As was to be expected, home railway stocks have been affected by the surrounding tendency, and lower prices resulted, not only for junior stocks, but also for prior charges; the latter again reflected absence of improvement in demand despite the favourable yields and their good investment merits. When markets rally, there should be scope for some recovery not only in debentures, but also in preference stocks; with the turn of the year, dividend considerations may very well attract attention to junior stocks. The belief that working

out details of nationalisation of the coal mines is proving much more difficult than expected is leading to the view that the even more complicated question of transport nationalisation may not be finally decided until possibly the end of 1947. Moreover, it continues to be assumed that until the nationalisation plans have been put through, the existing fixed rental agreement will remain in force, implying the likelihood of maintenance of dividend rates for 1946 and probably also for 1947. In any case, whatever the basis of "fair compensation" for stockholders, the chances are, according to prevailing views, that it would show junior stocks to be considerably undervalued at existing levels.

Great Western has eased further to 54½, compared with 55 a week ago, and the 5 per cent. preference from 105½ to 105. The guaranteed stock was maintained at 119; but the 4 per cent. debentures fell back further from 108 to 105. L.M.S.R. was fractionally lower at 27, but the 1923 preference remained at 57, and the senior preference at 77; the guaranteed stock firmed up to par, although the debentures receded, the 4 per cents being a point down at 103.

Southern deferred eased ¼ to 23, and the preferred was a point lower at 72½; the 5 per cent. preference at 105 showed no change, but the 4 per cent. debentures lost 2½ at 105, and now has the same quotation as the 5 per cent. preference. It will be noted that Great Western 5 per cent. preference and 4 per cent. debentures are also around this level. L.N.E.R. second preference was 27½, compared with 28½ a week ago; but the first preference kept at 56

and the first and second guaranteed were 99 and 93 respectively. L.N.E.R. 3 per cent. debentures remained at 91, but the 4 per cent. debentures eased to 102. Debenture stocks are apparently affected by the possibility that under nationalisation terms there might be an exchange into £100 of Government stock. This is an illustration of the effect of nationalisation uncertainty, which apparently will continue for some while ahead, with prices of different classes of stocks affected from time to time by views as to the basis of compensation. London Transport "A" and "B" stocks, now xd, remained firm, but the "C" receded from 62 to 61½. Metropolitan Assented went back a point to 59½, and Metropolitan Surplus Lands shares receded 6d. to 10s. 9d.

There was a better tendency earlier in the week in Argentine railway stocks in anticipation of the Buenos Ayres Great Southern and Buenos Ayres Western meetings, Sir Montague Eddy's statements on the position being eagerly awaited because a vital stage in the railways' outlook is approaching with the forthcoming termination of the Mitre Law. Compared with a week ago, Buenos Ayres Great Southern has strengthened to 11½, and the preference and debenture stocks fully regained earlier declines, as did Buenos Ayres Western stocks. Buenos Ayres & Pacific and Central Argentine issues also firmed up. Elsewhere, United of Havana 1906 debentures were slightly better at 15½, but Mexican Railway 6 per cent. debentures fell back to 54½ on the decision as to further payments. Canadian Pacific at 20½ reflected the upward trend in dollar stocks.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffic to date			Shares or Stock	Prices						
			Total this year	Inc. or dec. compared with 1943, 4		Totals		Increase or decrease		Highest 1944	Lowest 1944	Dec 4 1945	Yield % (See Note)			
						1944/5	1943/4									
South Central America																
Antofagasta (Chili) & Bolivia	834	25.11.45	30,390	—	£ 8,140	47	1,386,350	1,349,840	+	£ 36,510	Ord. Stk.	13½	9½	10	Nil	
Argentine North Eastern ...	753	24.11.45	16,675	—	1,431	21	398,480	373,775	+	24,705	Ord. Stk.	13½	4½	6½	Nil	
Bolivar ...	174	Oct., 1945	4,472	—	1,028	43	48,577	53,255	—	4,678	6 p.c. Deb.	18½	7½	6½	Nil	
Brazil ...	—	—	—	—	—	—	—	—	—	—	Bonds	19½	15	22½	Nil	
Buenos Ayres & Pacific	2,771	24.11.45	146,875	+	10,625	21	2,668,125	2,584,125	+	84,000	Ord. Stk.	7½	3½	5½	Nil	
Buenos Ayres Great Southern	5,080	24.11.45	210,750	+	10,562	21	4,008,625	3,691,813	+	316,812	Ord. Stk.	14½	9½	11½	Nil	
Buenos Ayres Western	1,924	24.11.45	82,687	+	6,937	21	1,502,000	1,435,562	+	66,438	Ord. Stk.	13½	9½	10½	Nil	
Central Argentine ...	3,700	24.11.45	186,062	+	11,450	21	3,967,375	3,691,860	+	275,515	Ord. Stk.	10½	6½	7½	Nil	
Do.	—	—	—	—	—	—	—	—	—	—	Divd.	4½	3	4	Nil	
Cent. Uruguay of M. Video	972	24.11.45	39,294	+	4,096	20	744,033	660,545	+	83,488	Ord. Stk.	5½	4	6½	Nil	
Costa Rica ...	262	Sept., 1945	28,214	+	7,228	14	91,367	265,443	+	36,092	Ord. Stk.	17½	14½	15	Nil	
Dorada ...	70	Oct., 1945	28,400	—	372	43	301,535	237,415	+	35,720	1 Mt. Deb.	101	101	101½	£5 18/3	
Entre Rios ...	808	24.11.45	26,343	+	3,512	21	553,619	492,175	+	61,444	Ord. Stk.	6½	4½	6½	Nil	
Great Western of Brazil	1,030	24.11.45	36,300	+	6,000	47	1,191,000	1,033,200	+	157,000	Ord. Stk.	38½	23½	25½	Nil	
International of Cl. Amer.	794	Sept., 1945	\$615,723	+	\$122,464	39	\$6,867,641	\$5,799,919	+	\$1,067,722	Ord. Stk.	1½	—	1	Nil	
Interoceanic of Mexico	—	—	—	—	—	—	—	—	—	—	1st Pref.	1½	—	1	Nil	
La Guaira & Caracas...	22½	Oct., 1945	6,135	—	752	43	62,380	78,218	—	15,838	5 p.c. Deb.	88	79	70	£6 10/9	
Leopoldina ...	1,918	24.11.45	64,562	+	20,102	47	2,527,137	2,183,193	+	343,944	Ord. Stk.	5½	4½	4	Nil	
Mexican ...	483	21.11.45	ps537,300	+	124,900	20	ps13,216,100	ps. 9,932,900	+	ps. 3,283,200	Ord. Stk.	—	—	—	Nil	
Midland Uruguay ...	319	Oct., 1945	18,170	+	2,475	17	73,831	67,021	+	6,810	Ord. Stk.	—	—	—	Nil	
Nitrate ...	382	30.11.45	9,464	+	1,736	47	173,679	168,844	+	4,795	Ord. Sh.	75/10	65/10	74½	£3 11/0	
North Western of Uruguay	113	Oct., 1945	7,124	+	1,083	19	175,029	187,587	+	1,642	Pr. Ll. Stk.	79½	68	78½	£7 12/10	
Paraguay Central ...	274	23.11.45	£62,859	+	£7,999	21	£1,257,748	£1,227,065	+	£30,683	Ord. Stk.	9	10	8½	Nil	
Peruvian Corporation	1,059	Oct., 1945	142,092	+	9,592	17	564,925	508,152	+	56,773	Pref.	57½	46	52½	£5 11/1	
Salvador ...	100	Sept., 1945	£82,000	+	£10,000	12	£271,000	£247,000	+	£24,000	Ord. Sh.	21/3	13/9	16/3	Nil	
San Paulo ...	153½	—	—	—	—	—	—	—	—	—	Ord. Stk.	4	2½	1½	Nil	
Talca ...	156	Oct., 1945	3,025	+	530	17	9,690	10,735	—	1,045	Ord. Sh.	—	—	—	Nil	
United of Havana	1,301	24.11.45	46,024	+	2,780	20	920,204	981,895	—	61,691	Ord. Stk.	—	—	—	Nil	
Uruguay Northern ...	73	Oct., 1945	2,274	+	790	17	7,317	5,683	+	1,634	Ord. Stk.	—	—	—	Nil	
Canada																
Canadian National ...	23,569	Oct., 1945	7,326,200	—	173,000	43	72,790,200	73,128,800	—	338,600	—	—	—	—	—	
Canadian Pacific ...	17,030	21.11.45	1,183,000	—	93,400	46	56,627,600	56,972,400	—	344,800	Ord. Stk.	17½	13½	21	2½	
Various																
Barsi Light† ...	202	Oct., 1945	21,412	—	3,457	29	166,642	165,000	+	1,642	Ord. Stk.	129½	97½	123½	£3 11/2	
Beira ...	204	Sept., 1945	73,712	+	2,422	52	920,575	971,166	—	50,591	Pr. Sh.	7½	5½	9½	£5 18/10	
Egyptian Delta ...	607	31.10.45	23,242	—	3,248	32	350,255	395,477	—	45,222	B. Deb.	63½	58	66½	Nil	
Manila ...	—	—	—	—	—	—	—	—	—	—	Inc. Deb.	101½	99½	95½	£4 3/9	
Midland of W. Australia	277	Sept., 1945	15,818	—	4,876	12	45,287	60,947	—	15,660	—	—	—	—	—	
Nigeria ...	1,900	29.9.45	81,372	+	12,896	26	1,316,308	1,591,450	—	275,142	—	—	—	—	—	
Rhodesia ...	2,445	Sept., 1945	517,095	+	631	52	6,069,664	6,439,433	—	369,769	—	—	—	—	—	
South African ...	13,301	20.10.45	1,008,806	+	61,958	29	28,875,927	25,435,461	+	3,440,466	—	—	—	—	—	
Victoria ...	4,774	April, 1945	1,285,324	+	96,325	—	—	—	—	—	—	—	—	—	—	

Note. Yields are based on the approximate current price and are within a fraction of ½. Argentine traffic is given in sterling calculated @ 16 pesos to the £

† Receipts are calculated @ 1s. 6d. to the rupee.